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JVC

SERVICE MANUAL

MODEL

KD-A5 A/B/C/E/J/U

STEREO CASSETTE DECK

KD-A5 A/C/J/U

KD-A5 B/E

No. 4182
March 1979

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Contents

Specifications

Type : Component stereo cassette deck
Power requirement : AC 120 V, 60 Hz (KD-A5C/J)
AC 240/220/120 V, 50/60 Hz (KD-A5A/B/E)
AC 240/220/120/100 V, 50/60 Hz (KD-A5U)
Power consumption: 29 W
Motors : FG servo DC motor x 1 ..... Capstan
DC motor x 1 ..... Reel
Heads : (For Metal tape)
Recording/Playback; Sen-Alloy head
Erasure; 2 gap, Sen-Alloy head
Frequency response:
0 VU
Metal tape; 30–12500 Hz (Typical)
CrO_2 tape; 30– 8000 Hz (Typical)
−20 VU
Metal tape; 20–18000 Hz (Nominal)
30–16000 Hz (Typical)
CrO_2 tape; 20–18000 Hz (Nominal)
30–16000 Hz (Typical)
SF tape; 20–17000 Hz (Nominal)
30–15000 Hz (Typical)
Surpasses DIN 45 500
Signal-to-Noise ratio: 60 dB (from peak level, weighted, metal tape). The S/N is improved by 5 dB at 1 kHz and by 10 dB above 5 kHz with ANRS on.
Effect of Super ANRS: (normal tape)
Improvement of S/N: the same as with ANRS
Improvement of frequency response: 0 VU recording; 6 dB at 10 kHz
+5 VU recording; 12 dB at 10 kHz
Improvement of distortion : 0 VU recording; 3% less at 10 kHz
+5 VU recording; 3% or less at 10 kHz
Crosstalk : 65 dB
Harmonic distortion: K3; 0.4%, THD; 10% (with Metal tape at 1 kHz)
Wow and flutter : 0.04% (WRMS)
0.14% (DIN 45 500)

Tape speed : 4.76 cm/sec ± 2%
Recording time : 2 x 30 minutes with C-60 cassette
Fast forward time : 85 sec with C-60 cassette
Playback torque : 40–70 gr./cm
Fast-forward or Rewind torque : More than 70 gr./cm
Bias frequency : 85 kHz
Input terminals : MIC jack x 2
Max. sensitivity; 0.2 mV (−72 dBs)
Matching impedance; 600Ω–10 kΩ
LINE IN jack x 2
Min. input level; 78 mV (−20 dBs)
Input impedance; 100 kΩ
Output terminals : LINE OUT jack x 2
Output level; 0–0.3 V
Output impedance; 3–6 kΩ
PHONES x 1
Output level; 0.3 mV
Matching impedance; 8 Ω – 1 kΩ
DIN socket (KD-A5B/E) : Min. input level 0.1 mV/kΩ
Input impedance 3kΩ
Output level 0–300 mV
Output impedance; 5kΩ
Matching impedance; 50kΩ or more
Semiconductors : 10 ICs (1 hall element), 58 transistors, (KD-A5B/E; 62)
40 diodes (4 zener diodes) [KD-A5B/E; 41 (5 Zener diodes)] and 9 LEDs
Dimensions : Width; 420 mm (16-1/2")
Height; 120 mm (4-3/4")
Depth; 300 mm (11-7/8")
Weight : 6.8 kg (14.96 lbs)

* Metal tape – 3M SCOTCH METAFINE or equivalent
Chrome tape – TDK SA or equivalent
SF tape – MAXELL-UD or equivalent

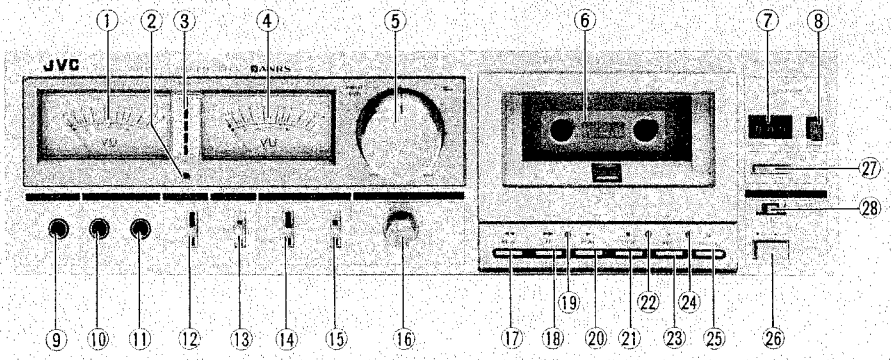
Design and specifications are subject to change without notice.

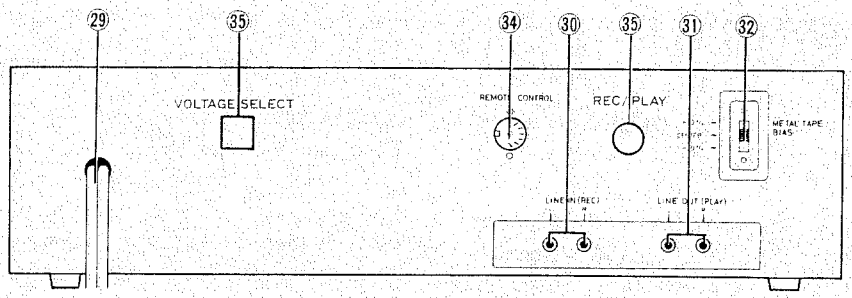
No. 4182

Features

- 4-position Tape Select Switches allow kinds of tape, including the new Metal Tape, to be used.
- Full logic control of the two-motor tape mechanism.
- SEN-ALLOY heads for REC/PB and erase.
  (An SA erase head with high erase efficiency is used so that Metal Tape can be erased.)
- IC-constructed ANRS (Automatic Noise Reduction System) and Super ANRS
- With the REC MUTE switch, you leave silent passages between program material.
- 5-point multi-peak level indicator.
- Timer standby capability for automatic start of recording or playback using an AC timer.
- Remote control terminal (for the optional remote control unit – R-30E)

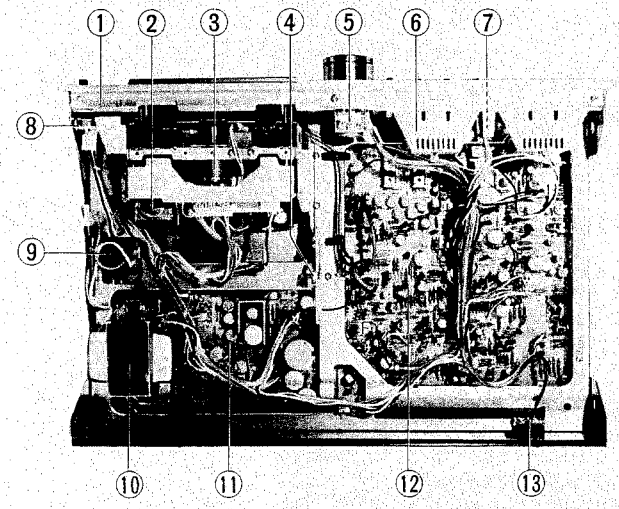
Controls and Connections





1 Left channel level meter
2 Super ANRS indicator (red)
3 Multi peak level indicator (red)
4 Right channel level meter
5 INPUT LEVEL controls (inner knob – Left channel, outer ring – Right channel)
6 Cassette door
7 Tape COUNTER
8 Counter reset button
9 Headphone jack (PHONES)
10 Left channel microphone jack (MIC-L)
11 Right channel microphone jack (MIC-R)
12 INPUT SELECT switch
13 ANRS switch
14, 15 TAPE SELECT switch
16 OUTPUT LEVEL control
17 Rewind button (◀◀ REW)
18 Fast-forward button (▶▶ FF)
19 Playback indicator (green)
20 Playback button (▶ PLAY)
21 Stop button (■ STOP)
22 Recording indicator (red)
23 Recording button (○ REC)
24 Pause indicator (green)
25 Pause button (II PAUSE)
26 POWER switch
27 EJECT button
28 TIMER STANDBY select switch
29 Power cord
30 LINE IN (REC) terminals
31 LINE OUT (PLAY) terminals
32 Metal tape bias select switch
33 Voltage select switch (KD-A5A/B/E/U)
34 Remote control socket
35 REC/PLAY socket (KD-A5B/E)

Main Parts Location



1. Front panel ass'y
2. DC solenoid ass'y for playback
3. Reel motor
4. Geared and oil-damped ass'y
5. Variable resistor (INPUT LEVEL control)
6. Meter cover
7. LED P.W. board ass'y
8. Hole element P.W. board ass'y
9. Power switch
10. Power transformer
11. Control P.W. board ass'y
12. Main amp. P.W. board ass'y
13. Metal switch P.W. board ass'y

Mechanical parts are the same as model KD-A6.
See the service manual of KD-A6A/B/C/E/J/U (No. 4179 – page 4).

Maintenance

To get long, trouble-free service, maintenance is important. Do not forget cleaning and demagnetizing.

Cleaning

After long, the heads and tape part – capstan, pinch roller, etc. – will become dirty with dust or magnetize particles. Dirty heads cause imperfect erasing or hogj frequency drop-off. A dirty capstan and pinch roller will cause unstable tape speed, leading to increased wow and flutter. Always keep them clean by following the procedure below.

1. Heads

1) Remove the front transparent cover.
2) Press the EJECT lever to open the cassette door.
3) Use the head cleaning stick to wipe the surface where the tape comes into contact with the head.
(It is effective to moisten the cotton with alcohol.)

2. Pinch roller and capstan

Perform the cleaning in the same manner as for the heads.

* Do not use any cleaner besides alcohol or a specifically prepared tape head cleaning solution.

3. Cleaning the cabinet and panel

Wipe the cabinet and panel clean with a soft cloth dipped in a neutral cleaner. Do not use thinner, benzine, alcohol or other strong slovents, as these will cause damage to the surface finish of the cabinet and panel.

Demagnetizing

The heads are made from a material resistant to magnetization, but after long use they may become magnetized. A magnet brough into their vicinity can magnetize the heads, causing excess noise. If noise seems to have increased, demagnetize the heads with a head demagnetizer through the following procedure.

1. Turn the POWER switch OFF.
2. Wrap the tip of the demagnetizer with vinyl tape or soft cloth so as not to damage the head surface. Switch on the demagnetizer and bring it close to the head.
3. Move the tip of the demagnetizer slowly first to the left and right, then up and down in front of the head. Gradually move it away from the head and switch it off at a distance of more than 30 cm (12").
4. The rase head need not be demagnetized. The capstan shaft and tape guide should be demagnetized in the same way as the record/playback head.

* Do not bring a magnetized metallic object (a screwdriver. for example) near the head as this will increase noise.

Oiling

Feed one or two drops of machine oil to the rewind roller shaft, pinch roller shaft and magnet pulley shaft once or twice a year under normal conditions of use.
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

Removal of the Main Parts

This cassette deck which features a compact design and high performance uses miniature-sized parts which are closely arranged. Take special care when servicing it.

ENCLOSURE ASSEMBLY

1. Cassette door .....
   Depress the EJECT button to open the cassette door. Hold it upward (about 5 mm) to unlock its pawls - ①. (left, right and lower sides).
   Remove the cassette door to this side - ②.
2. Lever knobs (INPUT SELECT, ANRS, TAPE SELECT – 2 pcs.) –4 pcs. in total .....
   Pull them off to this side - ③.
3. Level control knobs (INPUT LEVEL – L and R, OUTPUT LEVEL) .....
   Pull them off to this side - ④.
4. Top cover .....
   Remove 4 screws fastening the top cover - ⑤.
5. Bottom cover .....
   Remove 4 screws fastening the bottom cover - ⑥.
6. Front plate ass'y .....
   Remove 6 screws (3 screws on upper side and 3 screws on bottom side) - ⑦.
   (Removed with control switch ass'y)

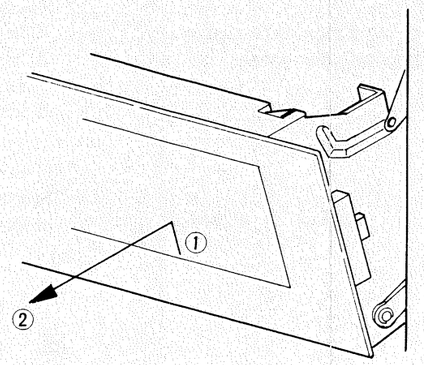
When adjusting or replacing REC/PB or Erase head .....

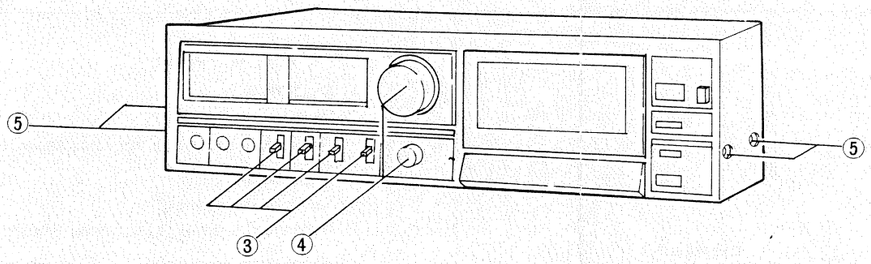
1) Remove the wires of the control switches from the wire clamps after having removed the top cover.
2) Remove the 2 screws positioned below the control switches (on the bottom of the deck) and pull the control section forwards – no need of removing the front panel ass'y.

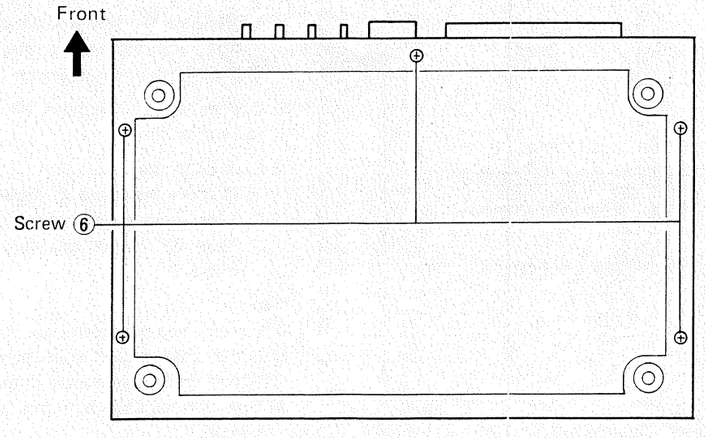
Caution:

When assembling the control switch ass'y to the front panel, do in the order of the numbers as below so as not to damage the front panel.

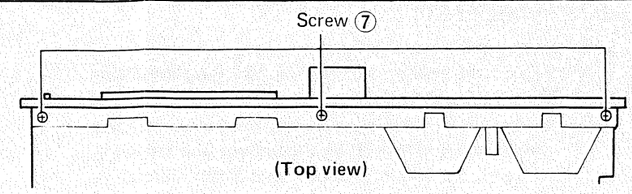
1) Wrap the sharp edges of the front panel with vinyl tape, etc.
2) Insert the control switch ass'y in the front panel.
3) Remove the vinyl tape.
4) Fasten 2 screws for the control switch ass'y.

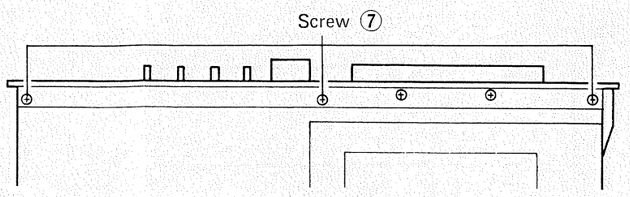






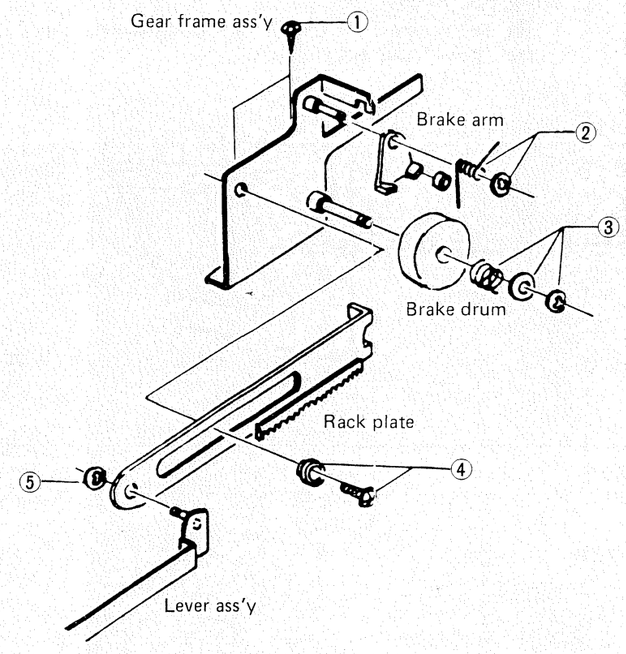
(Bottom view)





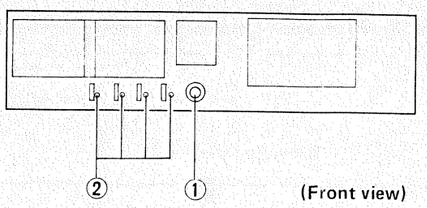
DOOR BRAKE AND ITS RELATED PARTS

1. Gear frame ass'y ..... Remove 2 screws ①.
2. Brake arm and tire ..... Remove the E-ring and torsion spring ②.
3. Spur gear and brake drum ..... Remove the E-ring, and spring ③.
4. Rack plate ..... Remove the screw and the collar ④.
5. Brake lever ass'y ..... Remove the E-ring ⑤.



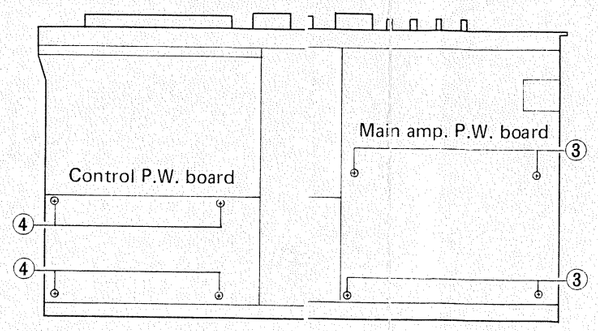
ELECTRICAL PARTS

1. Main amp. P.W. board ass'y
   1) Remove the washer and nut ① fastening the OUTPUT LEVEL V.R. shaft.
   2) Remove the 4 screws ② fastening the 4 lever switches.
   3) Remove the 4 screws ③ on the bottom side fastening the main amp. P.W. board ass'y to the amp. chassis.



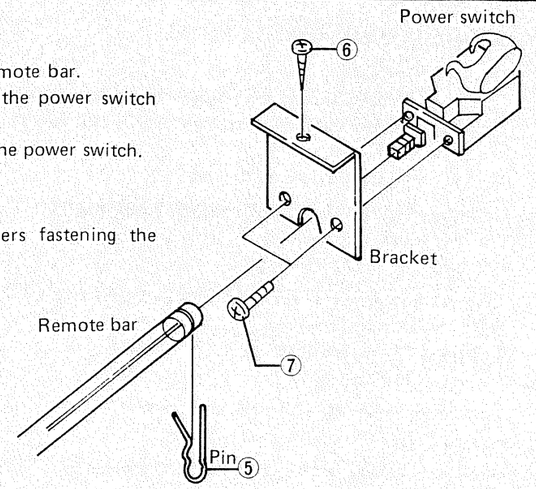
(Front view)

2. Control P.W. board ass'y
   Remove the 4 screws ④ on the bottom side fastening the control P.W. board ass'y to the amp. chassis.



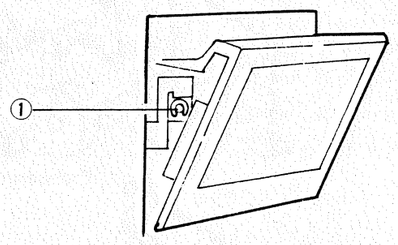
3. Power switch
   1) Remove the pin ⑤ holding the remote bar.
   2) Remove the screw ⑥ fastening the power switch bracket.
   3) Remote the 2 screws ⑦ fastening the power switch.

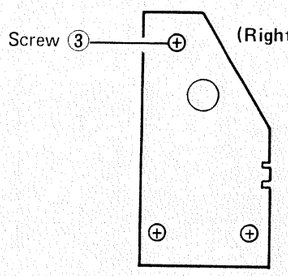
4. Power transformer
   Remove the 2 screws and 2 washers fastening the power transformer.



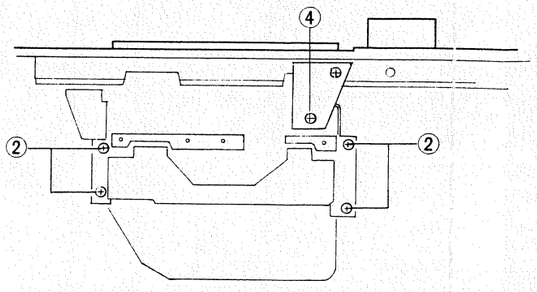
MECHANICAL ASSEMBLY

1. Remove the screw ① fastening the arm of gear-oil damper (left side of the cassette holder).
2. Remove the 4 screws ② fastening the mechanical bracket to the amp. chassis.
3. Remove the screw ③ fastening the mecha. chassis to the front bracket.
4. Remove the screw ④ fastening the joint bracket to the front panel (upper side).





(Right side)



(Top view)

MECHANICAL PARTS

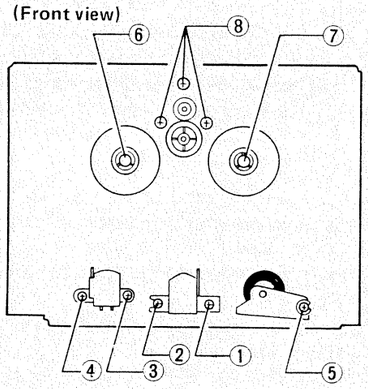
1. REC/PB head .....
   Remove the screw ①.
   Remove the screw ② for head adjustment.
2. Erase head .....
   Remove the screw ③.
   Remove the screw ④ for head adjustment.
3. Pinch roller arm ass'y ..... Remove the E-ring ⑤.
4. Supply reel disc ..... Pull out the reel stopper ⑥.
5. Take-up disc ..... Pull out the reel stopper ⑦.
   Remove the counter belt.

Note:
   1) Remove the reel disc stoppers with a piece of sheet metal inserted between the reel disc and the stopper.
   2) Be careful not to stain the counter belt.

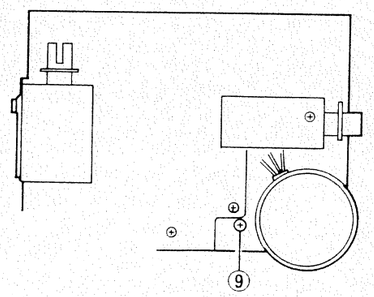
6. Reel motor ..... Remove the 3 screws ⑧ fastening the reel motor.
7. Capstan motor .....
   1) Remove the screw ⑨ fastening the rubber stopper.
   2) Remove its motor belt.
   3) Turn the motor counter clockwise and pull it for removal.

Note:
When replacing the motor, check the following items.
1) Is the motor placed in the correct position? (Don't deflect the motor at mounting it.)
2) Does the capstan belt run in the center of the motor pulley?
3) Does the capstan belt run in the center of the flywheel?

(Front view)



(Rear view)

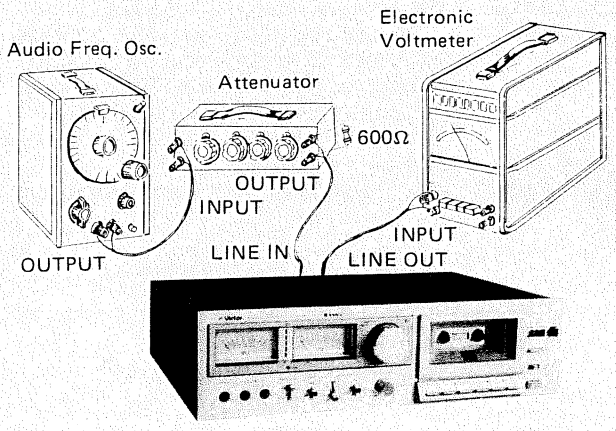


Main Adjustments

[I] Equipment and measuring instruments used for adjustment

1. Electrical adjustment

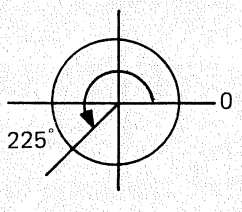
1) Electronic voltmeter
2) Audio frequency oscillator
   (range; 50–20 kHz and output 0 dB with impedance 600 Ω)
3) Attenuator
4) Standard tapes for REC/PB
   Maxell UD – SF tape
   TDK SA – SA tape
   SCOTCH METAFINE – Metal tape
   } or equivalent
5) Reference tapes for playback (JVC Test Tape)
   VTT-658 (for head azimuth adj.)
   VTT-656 (for motor speed, wow flutter adj.)
   VTT-664 (for Reference level 1 kHz)
   TMT-6266 (for playback frequency response)
6) Resistors
   100 Ω (for measurement of the bias current)
   600 Ω (for attenuator matching)



KD-A5

2. Mechanical adjustment

1) Gauge for checking the head position.
2) Torque gauge
3) Blank tape (C-120) for tape running checker.



[II] Adjustment and repair of the mechanism

TROUBLESHOOTING HINTS

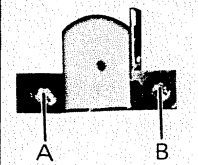
1. Azimuth adjustment and head replacement

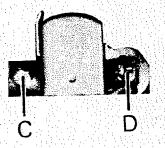
1) Remove the wires of the control switches from the wire clamps after having removed the top panel.
2) Remove the two screws positioned below the control switches (on the bottom of the deck) and pull the control section forwards.
3) With the control section pulled out, azimuth adjustment and/or head replacement can be performed. With the JVC cassette deck series of KD-A6, KD-A5 and KD-A8 models, the adjustment or replacement can be performed more easily than with conventional cassette decks which require removal of the entire mechanical section for the adjustments and/or replacements.

2. Tape-to-head contact adjustment

1) Turn the adjusting screw for aligning the erase head until it stops. Then, turn the screw in the reverse direction by 225° (a 5/8 revolution).
2) Check the tape-to-head contact using a C-120 tape having pads.
3) Check it again with a Metal tape.
   Checking method:
   Record a 400 Hz or 1 kHz signal with 0 VU + 20 dB. Erase the recording. Check if the erasing is satisfactorily performed.
4) After adjustment, apply screw bond on the adjusting screw to prevent its loosening.

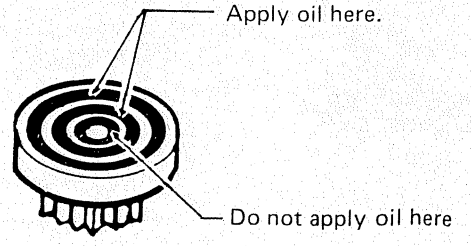
(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting record/ playback head position 	1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT-658 test tape. 3. Adjust the head angle with the screw A until the reading of the electronic voltmeter becomes maximum for both channels. 4. After adjusting, set the screw with screw bond.	Screw A	Maximum	1. If the head is worn, disconnected or exceedingly magnetized so as not to provide the necessary characteristics, replace it with a new one. After replacement, the head position adjustment as well as the playback level adjustment, the bias current adjustment and the recording level adjustment are all necessary.

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting erase head height 	Employ a special cassette (C-120) from which parts of the casing, where the erase head, record/playback head and capstan engage, has been cut away. Perform tape transport with the cassette tape. Adjust the screw C until the tape runs in the center of the erase head tape guide. (See "Troubleshooting hints" aforesaid.) 	Screw C		2. If the output difference between the left and right channels exceeds 3–4 dB, the head is defective. Replace it with a new one. Be sure to perform this adjustment after replacing the erase head.
Adjusting motor speed	Connect a speed meter to the LINE OUT terminals. Play back the VTT-656 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the motor case	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking playback torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		40–70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Adjusting the auto-stop mechanism	Perform the adjustment with the 2-screws securing the solenoid.			
Checking wow and flutter	Connect a wow and flutter meter to the LINE OUT terminals. Play back the VTT-656 test tape. Check to see if the reading of the meter is within 0.04% (WRMS).			If the reading becomes moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.

Damping gear oil

Oil employed – Torque grease specified by JVC (KANTO KASEI GP-608)
Applying method – Apply in both concaved sections as shown in the figure.



[III] Repair of wow flutter

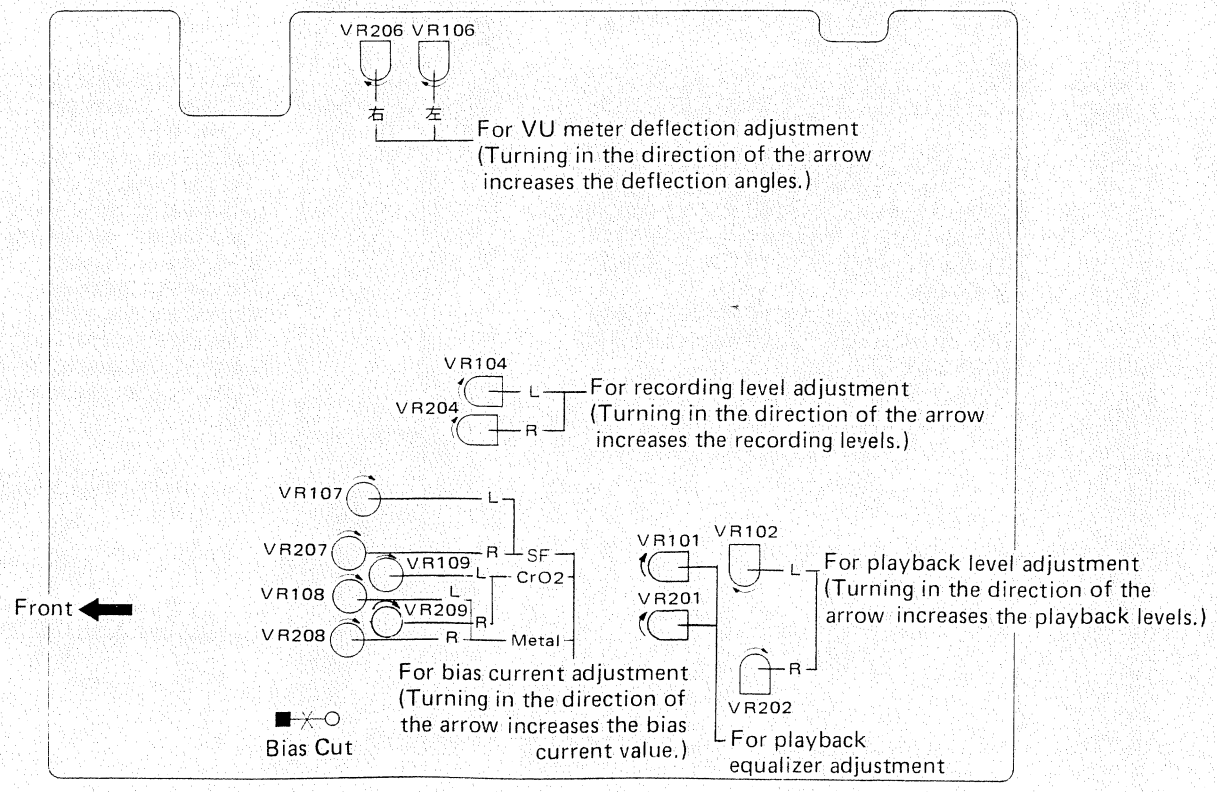
If wow and flutter increase, check the following points. If there is defect in revolving parts, the wow and flutter generated will increase in proportion to the number of revolutions.

Play a 3000 Hz test tape, and defective part can be detected from the sound.

Section	Trouble	Repair
Capstan and flywheel	Capstan shaft has excessive run-out Flywheel turns heavily. (shaft seisure, thrust play, etc.)	Replace flywheel. Clean the capstan shaft and the groove in the flywheel. Apply oil to the metal position. Replace the capstan assembly.
Pinch roller	Rough rotation (Deformation scratches, or dust) The angular position of the pinch roller is not correct. The pinch roller pressure is not correct.	Replace pinch roller, or pinch roller spring. Clean the pinch roller or apply oil to the rotary shaft. Adjust the pinch roller so that it is parallel with the capstan shaft. Replace the pinch roller spring.
Belt	Belt has undue run-out. Belt is dirty or slippery.	Clean the belt. Replace the belt.
Back tension	Back tension is irregular, or back tension is too strong.	Replace back tension spring (under supply disc).
Motor	Motor shaft has undue run-out. Motor pulley is oily and dusty.	Replace motor. Clean motor pulley.

[IV] Electrical circuit adjustment location

Main Amp. P.W. Board



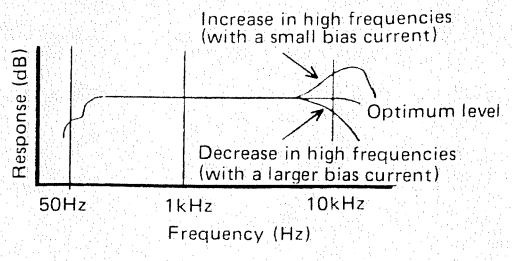
No. 4182

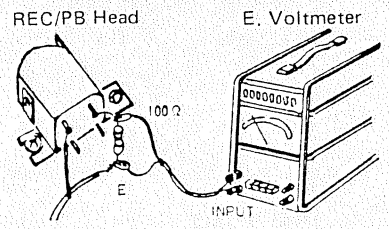
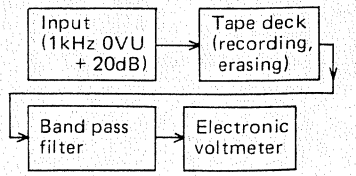
[V] Electrical circuit adjustment procedure

In the steps marked by an asterisk (*), adjustment should be performed, however, only checking is sufficient with steps other than those.

Adjustment should be performed in the order of steps 1, 2, 3 .....

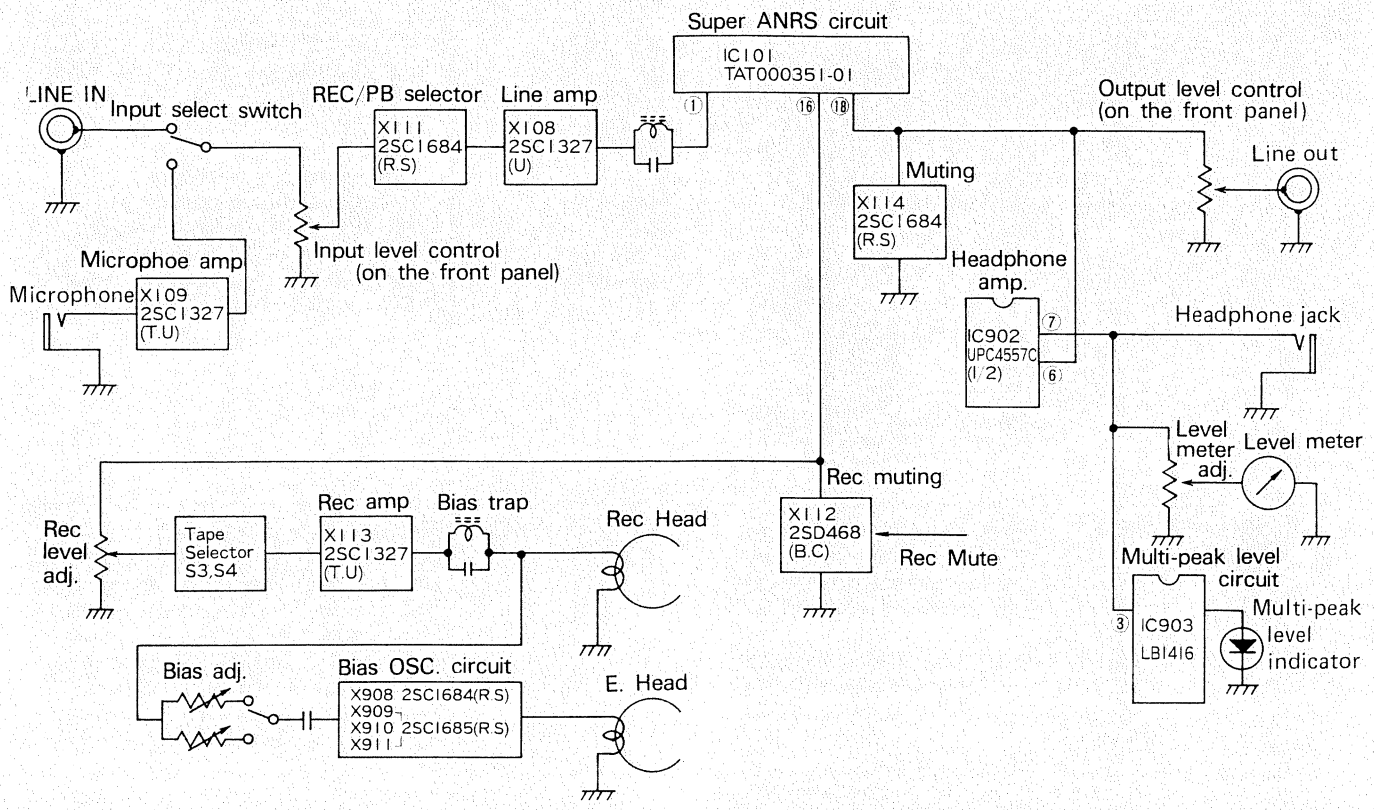
Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1*	Playback frequency response	Play back test tape TMT-6266 for following adjustment. 1) Adjust VR101, 201 so that 6.3 kHz signal and 333 Hz signal gains become flat response. 2) If 10 kHz signal gain become less than 333 Hz signal gain, insert the receptacle wire (L_o or M_o) to its tab L_1 (M_1) or L_2 (M_2). And then, check 333 kHz, 6.3 kHz, 10 kHz signals to become flat response. If not flat, adjust VR101, 201 again. If 10 kHz signal increse and can not adjust VR101, 201 or not select the receptacle tab for adjustment, open the receptacle wire.			
2*	Adjusting playback level	1. Play back the VTT-664 Reference tape (1 kHz) with the equalizer switch set to the NORMAL position. 2. Adjust VR102 and VR202 until the LINE OUT becomes about −8 dBs.	VR102, 202	−8 dBs (0.3 V)	1. This adjustment becomes necessary when a change in playback level results (for example, due to head replacement). 2. Perform this adjustment with the ANRS switch set to OFF and with the OUTPUT level control set max.
3*	Adjusting VU meter sensitivity	1. Set the cassette deck to its recording mode. 2. Apply a 1 kHz, approx. −10 dBs signal to the LINE IN terminals. 3. Adjust the recording level controls until the signal is available at −8 dBs at the LINE OUT terminals. 4. Adjust VR106 and VR206 until the VU meters deflect to 0.	VR106, 206	0 VU	Perform the adjustment when the parts are replaced.
4*	Checking record/ playback frequency response	Record 1 kHz, 50 Hz and 12.5 kHz signals at an input level of 0 VU −20 dB. Play back the tape. Check to see that the 50 Hz and 12.5 kHz signal output deviations fall within the standard range, using the 1 kHz signal output as a reference. (It is basically desirable that the 1 kHz, 50 Hz and 12.5 kHz signal outputs are the same.	For normal tape: VR107, 207 For chrome tape: VR109, 209 For Metal tape: VR108, 208	Reference frequency; 1 kHz 0 ± 3 dB at 50 Hz 0 ± 3 dB at 12.5 kHz	This checking should be performed for normal and chrome tapes and for both right and left channels.
5*	Checking recording bias current	Record 1 kHz, 50 Hz and 12.5 kHz signals at an input level of 0 VU −20 dB. Play back the tape. Adjust VR107 and VR207 (for a normal tape), VR109 and VR209 (for a chrome tape), VR108 and VR208 (for a metal tape) until the indicated deviation of the 10 kHz signal output from the 1 kHz signal output becomes 0. As no bias current at REC-PAUSE mode, must check recording bias current at REC-PLAY mode.		Output deviation: 0	1. Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. The current measuring method described below is an alternative one. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below.



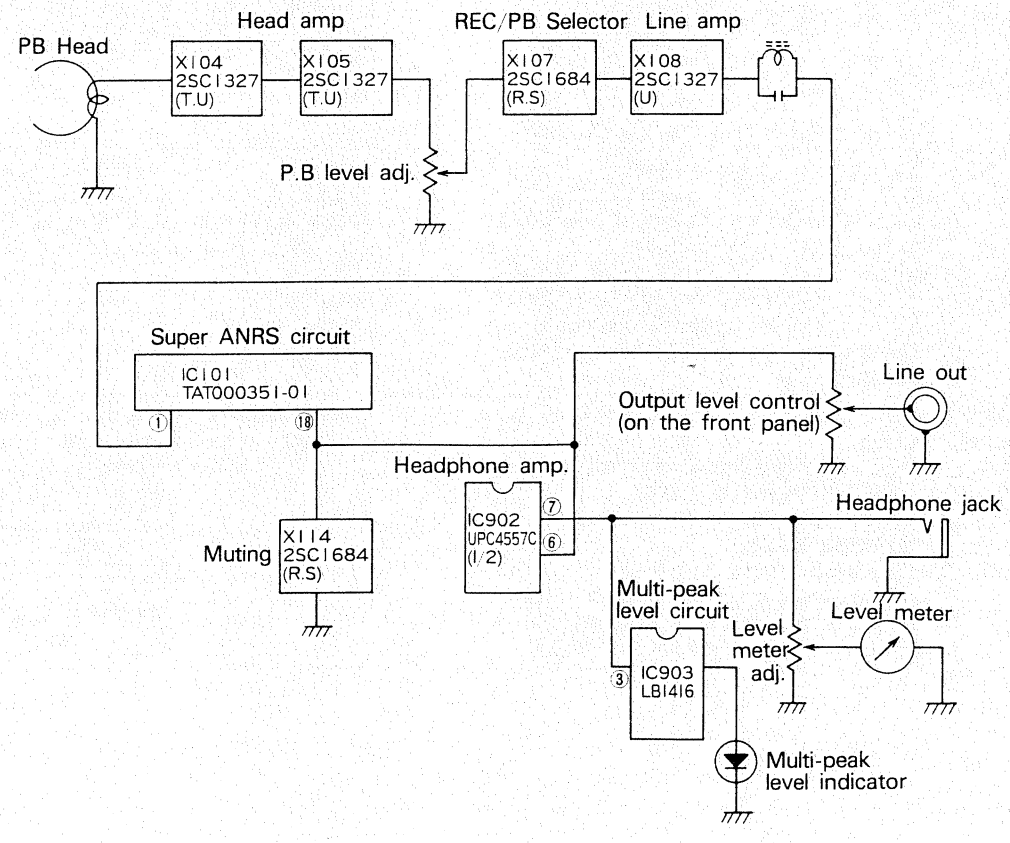
Step	Item	Adjustment	Adjusting point	Standard value	Remarks
		Alternative method 1. Set the deck to its recording mode. 2. Connect a 100 Ω resistor to the grounding terminal (+ terminal in playback) and the lead wire of the head as shown below. 3. Measure voltage at both ends of the resistor with electronic voltmeter.  	Reference value With normal tape; 30 mV With chrome tape; 42 mV With Metal tape: 65 mV		1. In order to distinguish the − terminal of the head from its + terminal, touch the terminals with a finger while the deck is in the playback mode. The VU meters deflect when the − terminal during recording is touched. (For a record/playback head, the polarity is reversed according to whether recording or playback.) 2. Be sure to employ a shielded wire.
6	Adjusting recording level	1. Apply a 1 kHz, approx. −10 dB signal to the LINE IN terminals. Adjust the recording level controls until the signal is available at −8 dBs at the LINE OUT terminals. 2. After checking to see if the VU meters point to 0, record the signal applied to both left and right channels using a normal tape. 3. Play back the recorded part. Perform the recording signal adjustment with VR104 and VR204 so that the VU meters deflect to 0.	VR104, 204	0 VU	The level difference between left and right channels for normal tape, chrome tape and metal tape should be less than 1 dB (1 VU). Perform the adjustment using a normal tape, level difference between recording and playback for CrO_2 and metal tapes should be less than 1.5 dB, and that between left and right channels should also be less than 1 dB.
7	Checking record/playback signal distortion	1. Record a 1 kHz, 0 VU −8 dBs signal to LINE IN terminals and perform recording with the VU meters pointed to 0. 2. Play back the recorded part. Check the output with a distortion meter to see if the value conforms to the standard value.		Normal tape; Less than 1.2 %	Be sure to perform this adjustment following bias current and recording level adjustments.
8	Checking signal to noise ratio in recording/playback	1. Record a 1 kHz, 0 VU signal. Stop the input by disconnecting from the terminal to perform non-signal recording. 2. Play back the recorded part. Measure the 0 VU recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.		Normal tape; More than 42 dB Chrome tape; More than 42 dB	Apply an output (−72 dBs) to the MIC terminals with the recording level controls set to maximum so that the VU meters deflect to 0.
9	Checking erasing coefficient	1. Apply a 1 kHz signal to the LINE IN terminals. Adjust the recording level controls until the VU meters deflect to 0. 2. Perform recording with the signal enhanced by 20 dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and non-erased part to compare with an electronic voltmeter.		More than 65 dB	For the measuring, connect a band pass filter between the deck and the electronic voltmeter. 

Block Diagram

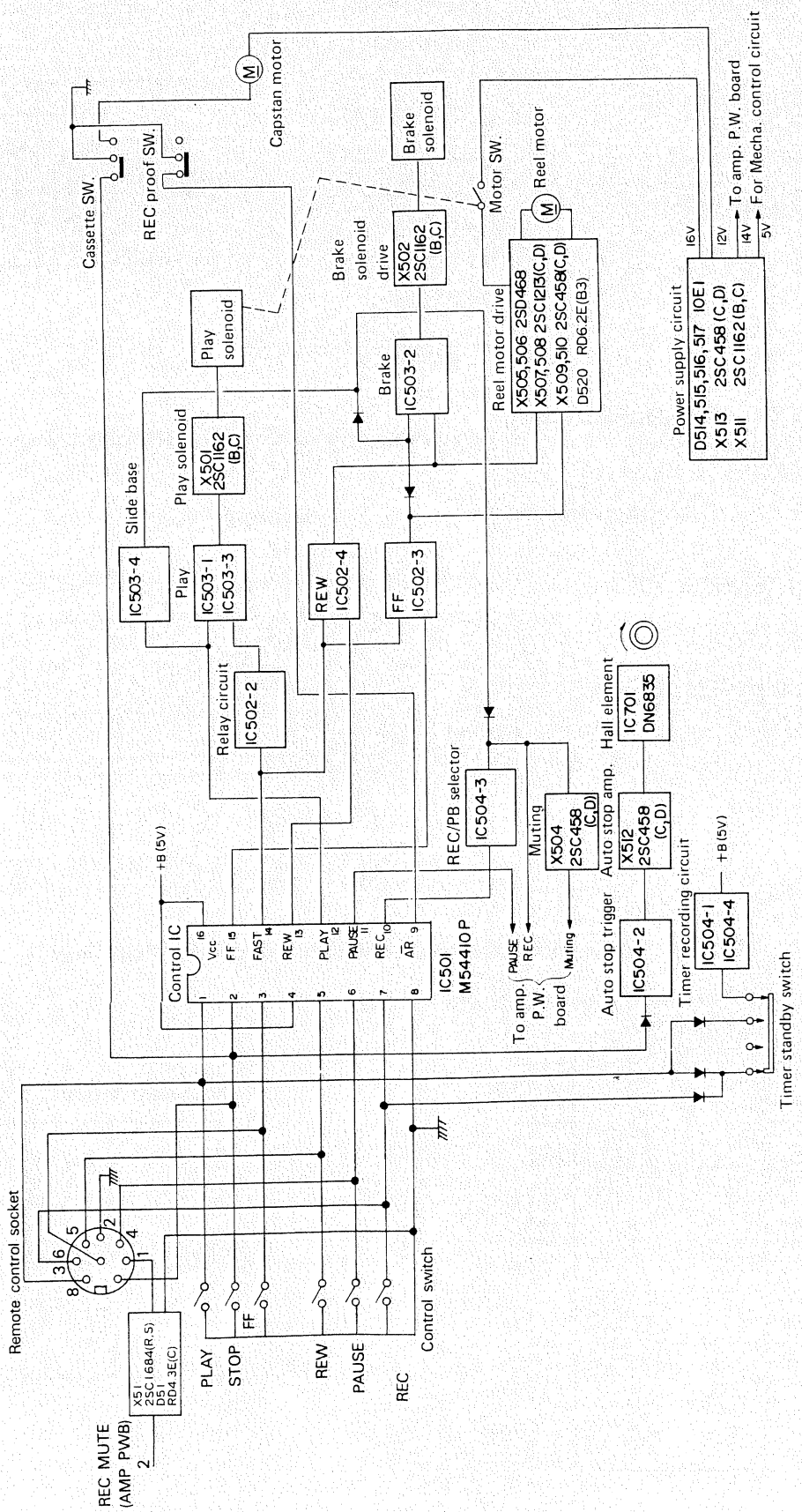
Amplifier 〔Recording system〕



〔Playback system〕



〔Mechanical control〕

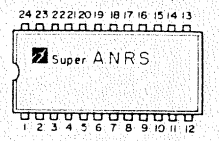


Integrant Circuit

IC101, 201 TAT000351-01 Super ANRS circuit

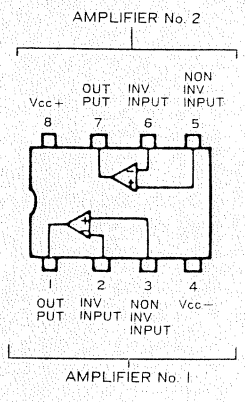
(Top view)

TAT000351-01 (Top view)

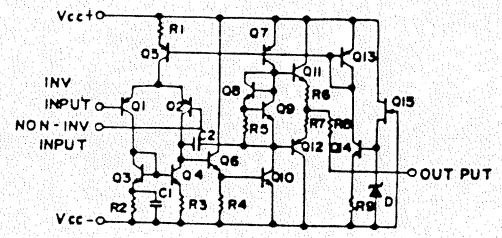


IC901 UPC4558C ANRS control amp. circuit

(Top view)



Equivalent circuit (1/2)

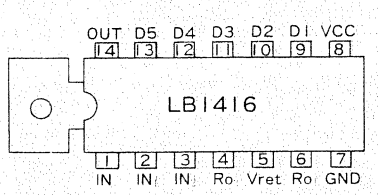


IC902 UPC4557C Headphone amp.

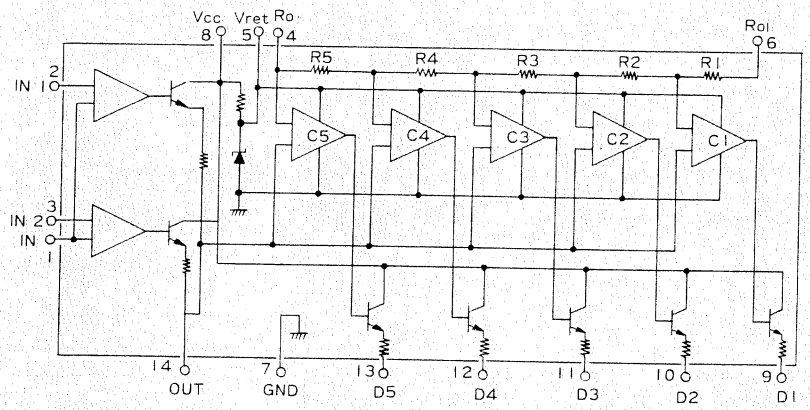
Top view is the same as UPC4558C.

Equivalent circuit is the same as UPC4558C except R8 only.

IC903 LB1416 Multi-peak level circuit



Equivalent circuit

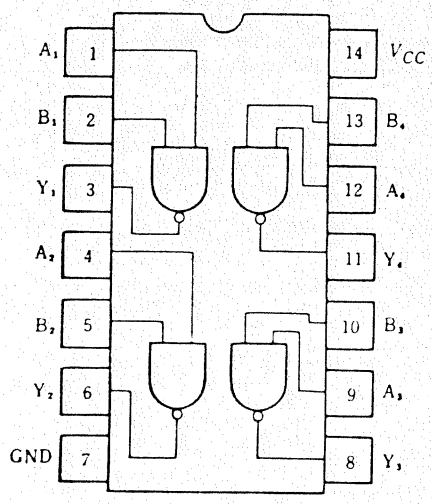


(Mecha. control)

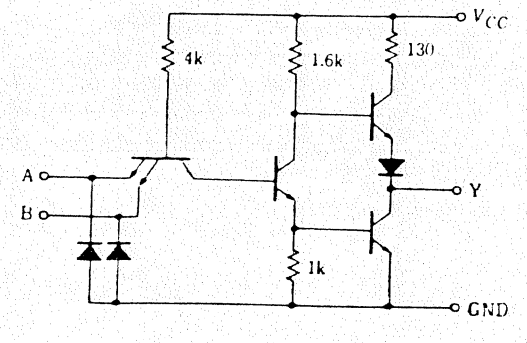
IC501 M54410P See the service manual of KD-85A/B/C/E/J/U (No. 4165 – page 7).

IC502, 503, 504 HD7400 or SN7400N

(Top view)



Equivalent circuit (1/4)

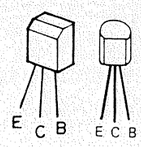


Standard Schematic Diagram of KD-A5 (Amprifier Circuit)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	ANRS
IC101 201	C.Tester	9.2	8.6	8.0	7.6	5.5	5.1	1.0	4.8	8.8	8.8	0.2	0	0	0.7	17.7	8.9	10.1	8.9	10.1	11.2	11.2	11.2	11.2	15.2	OFF
		9.0	8.5	8.1	7.9	5.8	2.0	1.0	0.5	9.0	9.0	0.2	0	0	0.8	18.1	9.0	10.3	9.0	10.3	11.5	11.5	11.5	11.6	15.7	ON
	E.Voltmeter	9.3	8.63	7.7	7.6	5.2	5.1	.1	4.6	8.4	8.3	0.4	0	0.1	0.7	17.1	8.4	9.7	8.4	9.7	11.0	11.0	11.0	11.0	14.9	OFF
		9.2	8.5	8.0	8.0	5.5	2.0	1.1	0.6	8.8	8.8	0.4	0	0.1	0.7	17.8	8.8	10.1	8.8	10.1	11.4	11.4	11.4	11.4	15.4	ON
IC901	C.Tester	10.4	10.4	10.4	0	10,4	10.4	10.4	20.9																	
	E.Voltmer	10.2	10.2	10.2	0	10.2	10.2	10.2	20.5																	
IC902	C.Tester	10.4	10.4	10.4	0	10.4	10.4	10.4	20.9																	
	E.Voltmeter	10.2	10.3	10.2	0	10.2	10.3	10.3	20.5																	
IC903	C.Tester	0	0	0	2.7	2.7	0	0	12.0	0	0	0	0	0	0											
	E.Voltmeter	0	0	0	2.7	2.7	0	0	12.3	0.3	0.3	0.3	0.5	0.5	0											

— Diode —

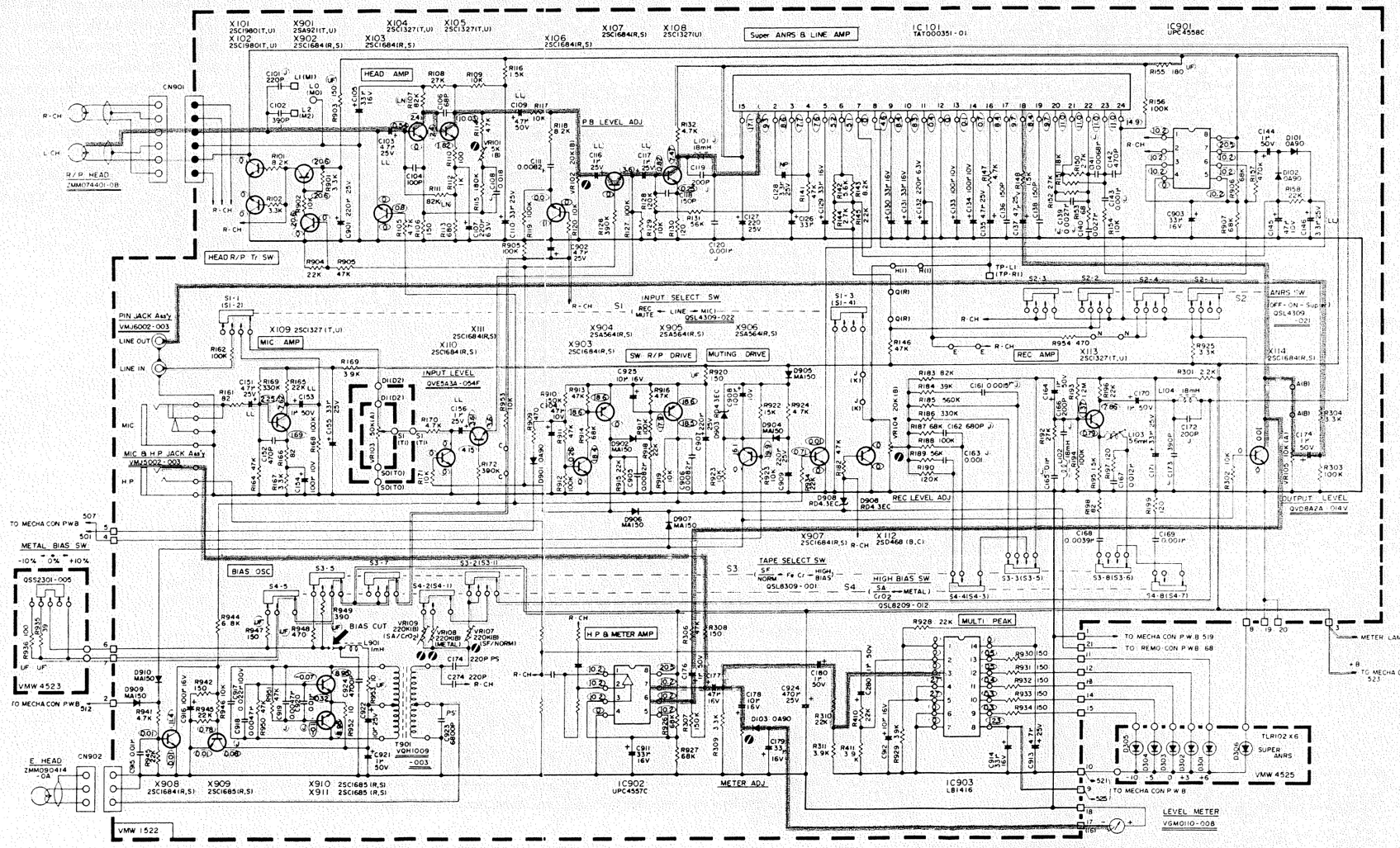
—Transistor—



X51	E	D	B	Remote Cont Reg Muting
C.Tester	0	20.5	0	ON
	0	0	0	OFF
E.Voltmetr	0	20.6	0	ON
	0	0	0.7	OFF

	C.Tester			E.Voltmeter			
	E	C	B	E	C	B	
X101,201	0	0	0.7	0	0.1	0.8	PLAY
	0	0	0	0	0	—	REC
X102,202	0	0	0.7	0	0	0.8	PLAY
	0	0	0	0	0	—	REC
X103,203	0	0	0	0.1	0	0	PLAY
	0	0	0.7	0	0	0.8	REC
X104,204	0	2.5	0.5	0	2.4	0.54	
X105,205	1.9	10.3	2.4	1.82	10.03	2.4	
X106,206	0	0	0	0.01	0	0	SF/NOR
	0	0	0.7	0.01	0	0.67	OTHER
X107,207	3.4	3.4	4.0	3.66	3.66	4.21	PLAY
	3.4	—	0	3.60	—	0	REC
X108,208	0	7.5 ±2	0.8	0.25	7.47 ±2	0.82	
X109,209	1.9	7.6	2.1	1.69	7.62	2.25	
X110,210	0	0	0.7	0.01	0.01	0.72	PLAY
	0	0	0	0.01	0	0	REC
X111,211	3.5	—	0	3.66	—	0	PLAY
	3.5	3.5	4.0	3.60	3.61	4.15	REC
X112,212	0	0	0.7	0.01	0	0.69	PLAY
	0	0	0	0	0	—	REC
X113,213	0.9	8.0	1.2	0.79	7.86	1.37	
X114,214	0	0 0	0	0	0.01	0	PLAY
	0	0 0	0.7	0.01	0.01	0.72	PLAY/PAUSE
X901	16.5	16.5	15.9	16.24	16.11	15.48	PLAY
	21.0	0	21.0	20.6	—	20.6	REC
X902	0	0	0.7	0.01	0.02	0.68	PLAY
	0	21.9	0	0	20.6	0	REC
X903	0	0	0.7	0	0.02	0.62	PLAY
	0	17.1	0	0	18.39	0.26	REC
X904	19.1	19.1	18.4	18.84	18.75	18.12	PLAY
	19.0	0	18.2	18.63	0	18.55	REC
X905	19.1	0	18.3	18.84	0	18.55	PLAY
	19.0	18.8	18.2	18.63	18.50	17.92	REC
X906	16.5	0	20.0	16.07	—	19.87	PLAY
	16.0	16.0	15.2	15.52	15.48	14.80	PLAY/PAUSE
X907	0	1.0	0	0.01	1.02	0.01	PLAY
	0	0	0.7	0	0.01	0.71	REC
X908	0	12.7	0	0.01	11.38	0.01	REC
	0	0	0.8	0	0.01	0.76	OTHER
X909	0	0	0.9	0.01	0.08	0.78	REC
	0	20.4	0	0	20.2	0.01	OTHER
X910	0.3	9.1	0	0.32	8.95	-0.07	REC
	20.4	21.0	20.0	20.2	20.6	20.5	OTHER
X911	0.3	9.1	0	0.32	8.95	-0.11	REC
	20.4	21.0	20.0	20.2	20.6	20.5	OTHER

at SF/NOR (Tape Select SW



NOTES:

1. Unless otherwise specified, all resistors are 1/4 W, ± 5% carbon resistors. And all capacitors are 50 V fixed ceramic capacitors or 50 V carbon resistors.
2. UF — Unflamable carbon resistor
   MF — Metal film resistor
   OMF — Oxided metal film resistor
   Ta — Tantalum solid electrolytic capacitor
   LL — +20% low leak current electrolytic capacitor
   PP — Polypropylene capacitor
   PS — Polystyrene capacitor
   MM — Metallized mylar capacitor
   NP — Non-polarized electrolytic capacitor
3. Blue line shows the signal at playback.
   Red line shows the signal at recording and +B circuits.
4. ▨ parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

No. 4182

Standard Schematic Diagram of KD-A5 (Mecha. Control Circuit)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC501	At PLAY operation 0 Others 5	At STOP operation 0 Others 5	At FF operation 0 Others 5	5	At REW operation 0 Others 5	At PAUSE operation 0 Others 5	At REC operation 0 Others 5	0	Playback cassette 0 Recording cassette 5	REC 5 Others 0.1	PAUSE 5 Others 0.1	PLAY 5 Others 0.1	REW 5 Others 0.1	FF and REW 3.9 Others 0.1	PLAY Others	5
502	PAUSE 5 Others 0.15		PAUSE 0.15 Others 4.5	FF.REW 5 Others 1		FF.REW 0.07 Others 3.5	0	FF 0.07 Others 3.8	FF 5 Others 0.15	FF.REW 1.7 Others 0.25	REW 0.07 Others 3.8	REW 1.6 Others 0.25	REW 5 Others 0.15	5		
503	PLAY 5 Others 0.1	FF and REW 0 Others 4	PLAY 0.2 Others 5	REW 0 Others 3.8	PLAY and FF 0.4 Others 1.7	PLAY.FF.REW 3.5 Others 0.15	0	PLAY 3 Others 0.1	PLAY 1.5 Others 5		PLAY 0.1 Others 5	PLAY 2.1 Others 0.2	PLAY 5 Others 0.1	5		
504	0.9	0.9	3.4	AUTO STOP 1.5 Others 0.5	AUTO STOP 1.4 Others 0.6	AUTO STOP V Others 5	0	REC 0.1 Others 5	REC 5 Others 0.11	5		3.4	1.0	5		

NOTES:

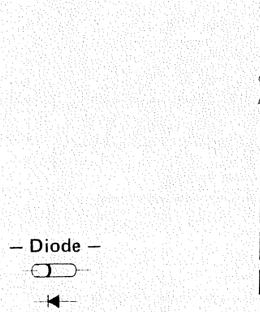
1. Unless otherwise specified, all resistors are 1/4 W, ± 5% carbon resistors.
   And all capacitors are 50 V fixed ceramic capacitors or 50 V mylar capacitors.
2. UF – Unflamable carbon resistor
   MF – Metal film resistor
   OMF – Oxided metal film resistor
   Ta – Tantalum solid electrolytic capacitor
   LL – +20% low leak current electrolytic capacitor
   PP – Polypropylene capacitor
   PS – Polystyrene capacitor
   MM – Metallized mylar capacitor
   NP – Non-polarized electrolytic capacitor
3. Red lines show +B circuits.
   Blue line shows the signal at playback.
4. [ ] parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

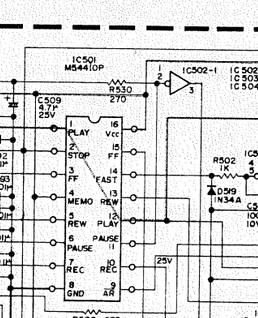
– Diode –

– Transistor –

E C B E C B

C1162
E C B





X501		
E	C	B
0	PLAY V Others 31.5	PLAY Λ 0.75 Others 0.15

X504		
E	C	B
0	PLAY REC 22.4 Others 0.05	PLAY REC 0.5 Others 0.7

X502		
E	C	B
0	STOP 31 Others 0.1	STOP 0.15 Others 0.75

X511		
E	C	B
20.7	31	21.3

X513		
E	C	B
21.4	31	22

X512		
E	C	B
0	AUTO STOP Λ more than 1.5 Other under 1	0.3

X509		
E	C	B
0	FF 11.1 Others 0.08	FF 0.07 Others 0.7

X505		
E	C	B
PLAY 5.4 FF 8.5 Others 0.01	14.5 – 15.5	PLAY 6 FF 9.3 Others 0.1

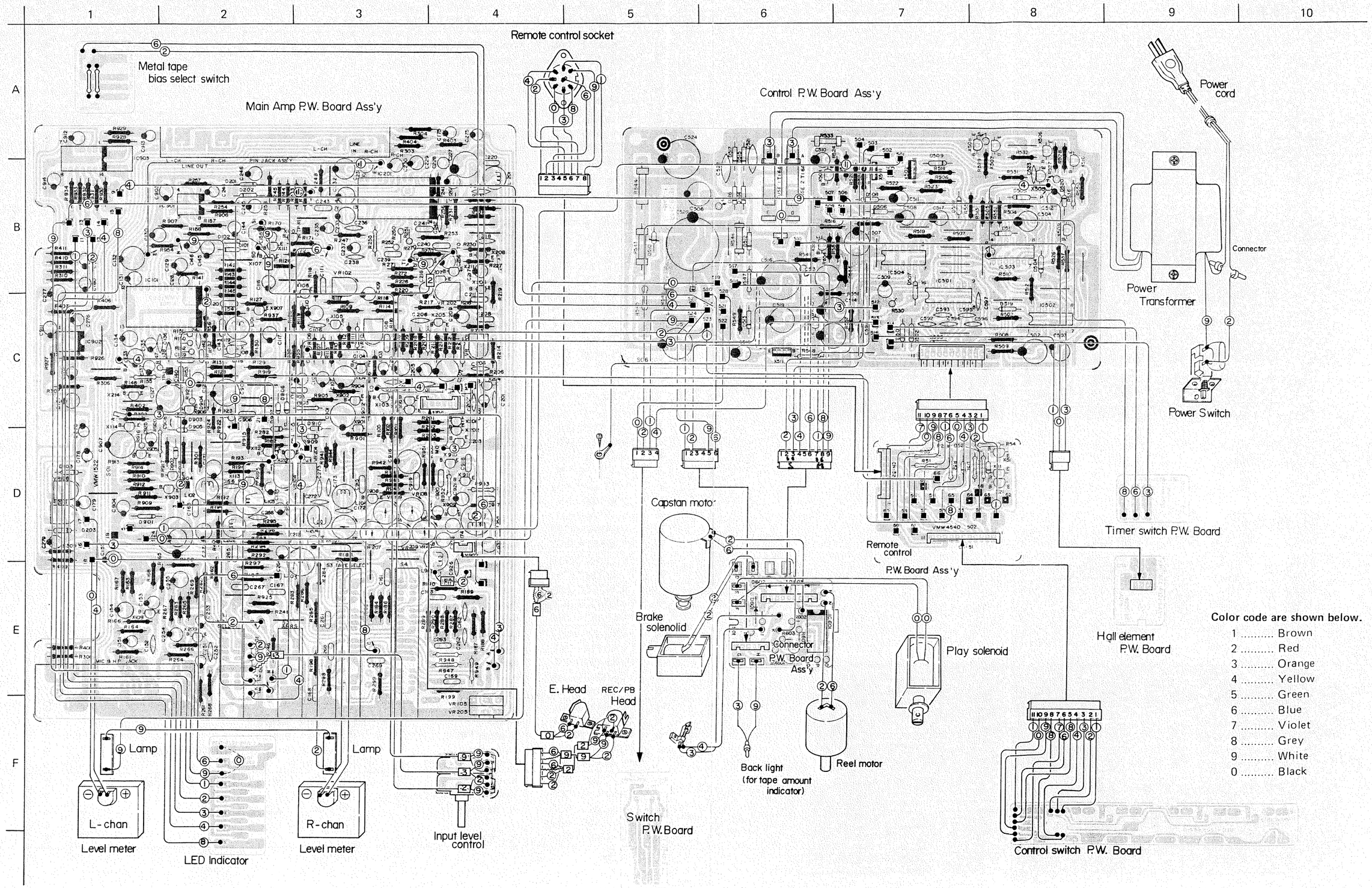
X507		
E	C	B
0	PLAY 5.4 Others 0.01	REW 0.75 Others 0.07

X506		
E	C	B
REW 9.2 Others 0.07	14.5 – 15.5	REW 9.1 Others 0.07

X508		
E	C	B
0	REW 9.1 Others 0.07	PLAY FF 0.75 Others 0.1

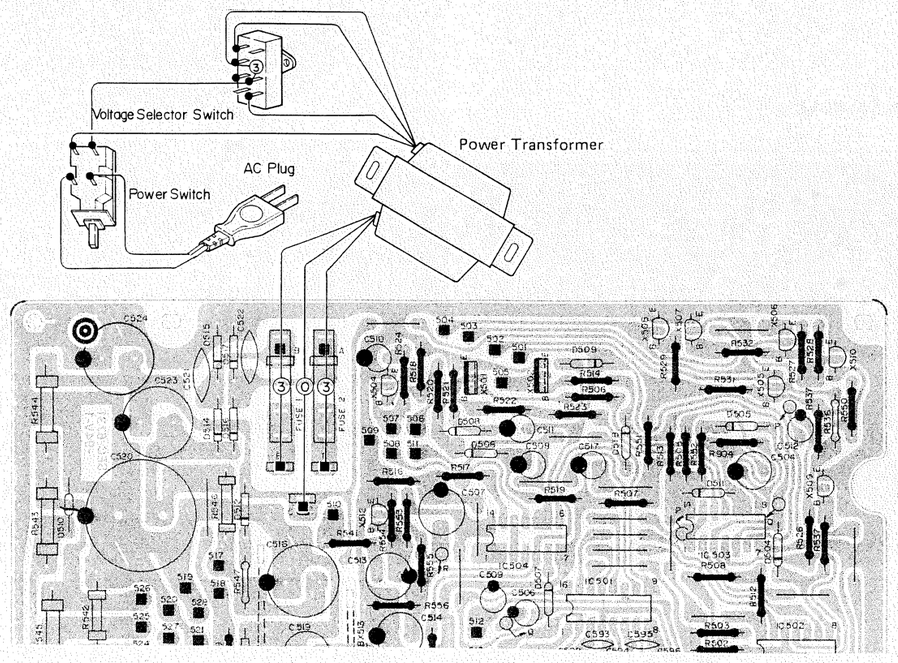
X510		
E	C	B
0	REW 8.5 Others 0.07	REW 0.07 Others 0.7

Wiring Connection (1) of KD-A5

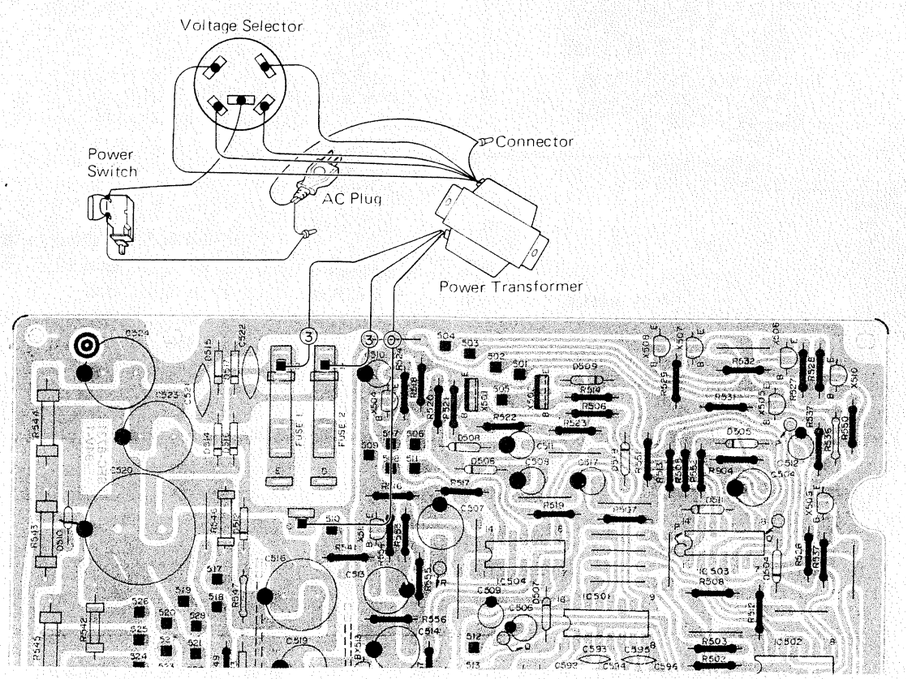


Wiring Connection (2) of KD-A5

KD-A5 A/B/E



KD-A5 U



Enclosure Assembly and Electrical Parts List
(Except P.W. Board Parts)

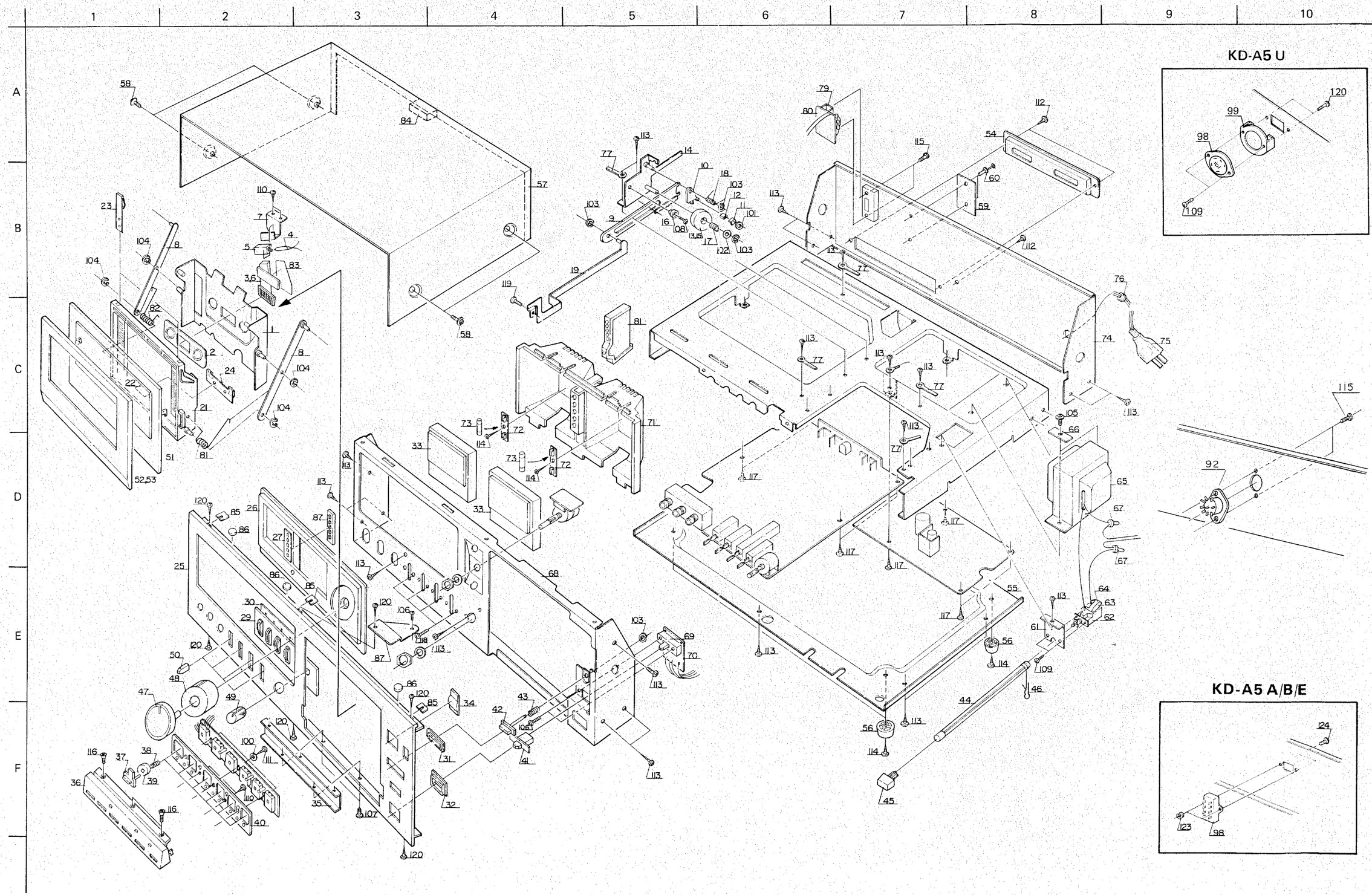
⚠ Parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL3178-00B	Holder Plate Ass'y		1
2	VKL4213-002	Panel Plate		1
3	VJD4273-001	Indicator		1
4	T47861-001S	Pilot Lamp		1
5	VKW4133-001	Knob Spring		1
6	VKZ4120-001	Sheet		1
7	VKL4507-001	Lamp Bracket		2
8	VKL4380-00A	Cross Bar Ass'y		1
9	VKS3102-001	Rack Plate		1
10	VKS4110-002	Brake Arm		1
11	VKL4271-001	Rubber Retainer		1
12	VKZ4111-001	Rubber Tire		1
13	VKS4109-004	Brake Drum		1
14	VKL4169-00A	Gear Frame Ass'y		1
15	VKS4108-003	Spur Gear		1
16	VKZ4123-001	Collar		1
17	VKW3001-006	Spring		1
18	VKW4106-001	Torsion Spring		1
19	VKL4488-00A	Arm Ass'y		1
20	VKZ4112-001	Stop Ring	for Arm Ass'y – Cassette Holder	1
21	VJT2024-002	Cassette Lid		1
22	TJL344518-02	"SA" Mark		1
23	VKY4156-001	Cassette Spring (1)		2
24	VKY4157-001	" " (2)		1
25–32,34	ZCKDA5Y1-CBF	Front Plate Ass'y	KD-A5A/C/J/U	1 set
	ZCKDA5Y2-CBF	"	KD-A5B/E	1 set
26	VJD2135-002	Meter Escutcheon		1
27	VJD4256-001	LED Plate		1
28	VJD4257-001	LED Cover		1
29	VJD4294-001	Lever Escutcheon		1
30	VYTA435-001	Blind		1
31	VJD4259-001	Button Escutcheon	for Eject	1
32	VJD4295-001	"	for Power	1
33	VGM0110-008	Level Meter		2
34	TJE349408-02	Counter Lens		1
35	VKL4440-001	Switch Bracket		1
36	VJD3167-001	Button Case	KD-A5A/C/J/U	1
	VJD3167-002	"	KD-A5B/E	1
37	VXP4023-002	Push Button		6
38	VKW3001-019	Compression Spring		6
39	VYSH203-001	Button Spacer		6
40	VKS4147-001	Switch Holder		1
41	VXS4019-001	Knob	for Timer Switch	1
42	VXP4024-00A	Knob Ass'y	for Eject	1
43	VKW3001-031	Compression Spring		1
44	VKS4148-001	Remote Bar		1
45	VXP4032-001	Knob	for Power Switch	1
46	E48981-001	Stopper Pin	for Power Switch	
47	VXL4060-00A	Knob Ass'y	for Input (Right channel) KD-A5A/C/J/U	1
	VXL4068-00A	Volume Knob (R) Ass'y	KD-A5B/E	1
48	VXL4061-00B	Knob Ass'y	for Input (Left channel) KD-A5A/C/J/U	1
	VXL4067-00B	Volume Knob (L) Ass'y	KD-A5B/E	1
49	VXL4062-00A	Knob Ass'y	for Output KD-A5A/C/J/U	1
	VXL4069-00C	"	KD-A5B/E	1
50	VXQ4017-001	Lever Knob		4

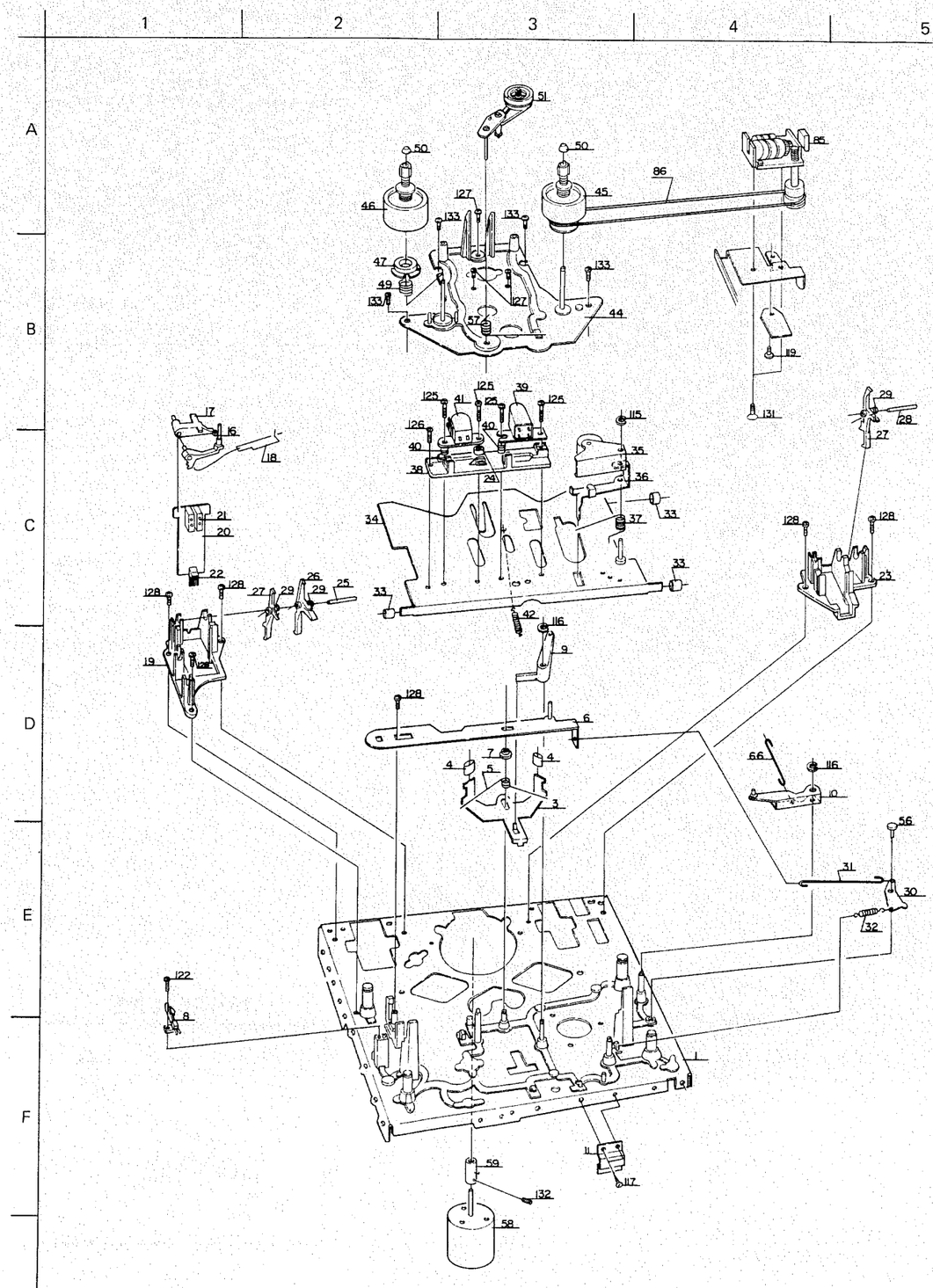
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
51–53	ZCKDA5Y-CCA	Cassette Lid Ass'y		1
51	VJT3031-001	Cassette Door		1
52	VJT3032-001	Door Plate		1
53	VJZ4008-001	Double Face		1
54	VJD3168-001	Jack Escutcheon		1
55	VKL1139-001	Bottom Cover		1
56	VJF3001-001	Foot		4
57	VKL1138-001	Top Cover		1
58	VKL3001-002	Special Screw		4
59	VYN2047-002GA	Name Plate	KD-A5A	1
	" -001GA	"	KD-A5B	1
	" -003GA	"	KD-A5C	1
	" -004GA	"	KD-A5E	1
	" -005GA	"	KD-A5J	1
	" -006GA	"	KD-A5U	1
60	E48729-002	Plastic Rivet		2
61	VKL4441-001	Switch Bracket	for Power Switch	1
62	QSP2111-011	Push Switch	KD-A5A/E (Power SW) ⚠	1
	" -011BS	"	KD-A5B (Power SW) ⚠	1
	QSP1110-222	"	KD-A5C/J (Power SW) ⚠	1
	" -221	"	KD-A5U (Power SW) ⚠	1
63	QFA72BM-223	M.P. Capacitor	KD-A5C 0.022 μF ⚠	1
	QFH72BM-223	M.M. Capacitor	KD-A5J " ⚠	1
	QFH53AM-223	"	KD-A5U " ⚠	1
64	T47047-001	Condenser Boot	KD-A5J/U ⚠	1
65	TAP344324-01	Power Transformer	KD-A5A/E ⚠	1
	TAP344324-01BS	"	KD-A5B ⚠	1
	TAP344325-01	"	KD-A5C/J ⚠	1
	VTP66U3-011	"	KD-A5U ⚠	1
66	F4932-002	Special Washer	for Power Transformer	2
67	TAW000504-01	Connector		2
68	VKL1136-001	Front Bracket		1
69	QSS2301-101	Slide Switch	for Timer Switch	1
70	VMW4531-001	P.W. Board	for Switch	1
71	VKS2104-001	Lamp Hood		1
72	QMG1121-003	Lamp Holder	for Lamp	2
73	QLP4101-005S	Lamp	VJZ4006-001 = Lamp Shade	2
74	VKL1137-003	Rear Bracket	KD-A5C/J	1
	" -004	"	KD-A5A/U	1
	" -005	"	KD-A5B/E	1
75	QMP2560-200	Power Cord with Plug	KD-A5A	1
	QMP9017-008BS	Power Cord	KD-A5B	1
	QMP1200-200	Power Cord with Plug	KD-A5C/J	1
	QMP3900-200	"	KD-A5E	1
	QMP7600-200	"	KD-A5U	1
76	QHS3876-162	Strain Relief Bushing	KD-A5A/C/E/J/U	1
	" -162BS	"	KD-A5B	1
77	VKZ4001-010	Wire Holder		3
78	VKS4146-001	LED Holder		1
79	QSS2301-006	Slide Switch	S5	1
80	VMW4533-001	P.W. Board		1
81	VKW4153-004	Holder Spring (R)		1
83	VKZ4120-001	Sheet		1

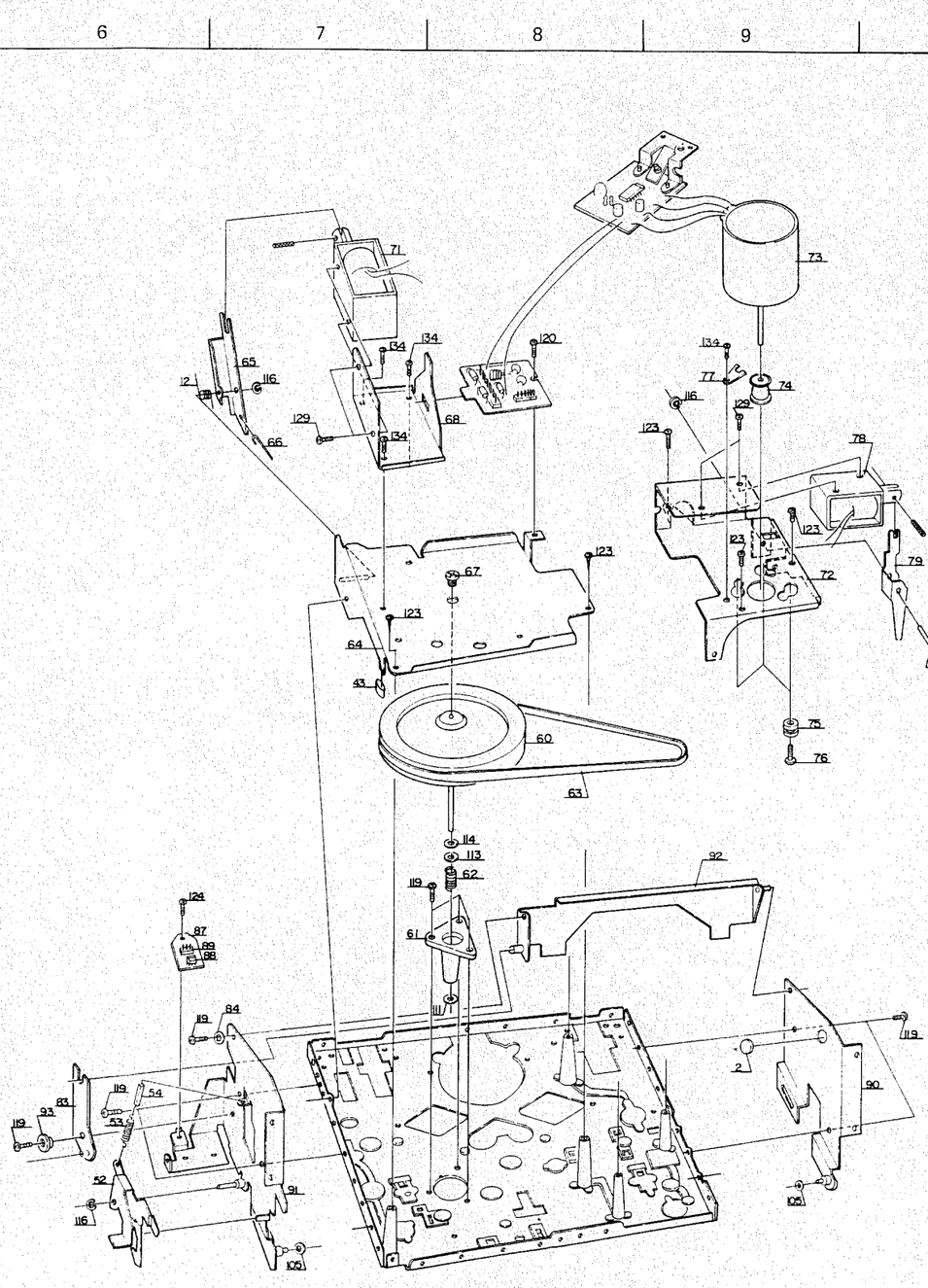
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
84	VYSH106-028	Spacer		1
85	T47818-002	"		3
86	TJF338415-01	Foot		3
87	VKL4503-001	Bracket		1
88	VKZ4001-011	Wire Holder		3
89	VYSR108-003	Spacer		1
90	VYSH103-009	"		1
91	VKL4506-001	Transformer Bracket		1
92	QMC0888-008	DIN Socket Ass'y	for Remote Control	1
93	QMG1321-002BS	Fuse Holder	KD-A5B	1
94	QMF51A2-R20LBS	Fuse	KD-A5B	1
95	*TAZ000509-08	Fuse Seal	KD-A5B	1
98	QSS2325-011BS	Slide Switch	KD-A5B, for Voltage Selector	1
	" -011	"	KD-A5A/E "	1
	QSR0084-001	Voltage Select Switch	KD-A5U	1
99	VKL4275-001	Bracket	for Voltage Select SW. (KD-A5U)	1
100	Q03095-206	Washer		1
101	Q03093-524	"	Rubber Tire	1
102	QNS2600Z	"	Gear Frame Ass'y	1
103	REE2000	E Ring	Spur Gear x 1, Arm Bracket x 1, Eject Knob x 1	3
104	REE2500	"	Head Plate Ass'y – Cross Bar Ass'y	2
105	DPSP4012ZS	Screw	Power Transformer	2
106	LPSP2604Z	"	Timer Switch x 2, Bracket x 1	3
107	LPSP2606Z	"	Bottom Case	2
108	LPSP2608Z	"	Spur Gear	1
109	LPSP3006ZS	"	Power Switch x 2, Voltage Select SW x 2	4
110	SBSB2606Z	Tapping Screw	Lamp Bracket x 2, Switch Holder x 2	4
111	SBSB2610Z	"	Switch P.W. Board	3
112	SBSB3005R	"	Rear Bracket x 1, Jack Cover x 2	3
113	SBSB3006Z	"	Gear-oiled Damp Ass'y x 2, Bottom Cover x 5, Mecha. Ass'y x 4, Switch Bracket x 2, Front Bracket x 6, Rear Bracket x 4, Lug x 1, Wrapping Terminal x 1, Fuse Holder (KD-A5B) x 1	26
114	SBSB3008Z	"	Foot x 4, Fuse Holder x 2	6
115	SDSP2605R	Screw	for P.W. Board (VMW4533-001), Remote Socket x 2, Slide SW (S5) x 2	5
116	SSSP2604N	"	Button Case – Switch Bracket	3
117	SBSB3006V	"	Amp. P.W. Board x 4, Control P.W. Board x 4	8
118	LPSP3006VS	"	Lever Switch	4
119	SDBP2005N	"		1
120	SDSB3006Z	"	front plate	3
121	WNS4000N	Washer		2
122	WLS4000	Lock Washer		2
123	NTB3000S	Nut	KD-A5A/B/E/U for Voltage Selector	2
124	SDBP3010RS	Screw	"	2

Enclosure Ass'y and Electrical Parts (Except P.W. Board Parts)



Mechanical Component Parts





Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL1118-00D	Chassis Base Ass'y		1 set
2	VYSR201-003	Spacer		1
3	VKL4361-002	Brake Bar		1
4	VYSF101-012	Spacer		2
5	VKW4145-001	Brake Bar Spring	for Brake Bar	1
6	VKL4362-001	Lock Bar		1
7	VKZ4005-001	Stopper	for Brake Bar	1
8	VSH1102-001	Leaf Switch		1
9	VKS4135-00A	Lock Lever Ass'y		1
10	VKL4366-00A	Play Arm Ass'y		1
11	VKL4479-001	Flywheel Cover		1
12	VKW4149-001	Play Solenoid Spring		1
13	T44341-001	Rubber Tire		1
16	VKS4142-001	Push Arm (1)		1
17	VKS4143-001	" (2)		1
18	VKW4141-001	Push Arm Spring		1
19	VKS3109-001	Switch Holder (L)		1
20	VMW4522-001	P.W. Board (L)	–	1
21	QSP0029-001	Slide Switch		2
22	QMV5004-004	Connector	–	1
23	VKS3110-001	Switch Holder (R)		1
24	VKH4215-001	Head Collar	for Erase Head	1
25	VKH4196-001	Shaft		1
26	VKS4136-001	Switch Lever		1
27	VKS4137-001	Pressure Lever		1
28	VKH4196-002	Shaft		1
29	VKW4138-001	Pressure Lever Spring		3
30	VKL4399-001	Eject Safety Lever		1
31	VKW4142-001	Connecting Wire		1
32	VKW3002-004	Spring		1
33	VKZ3003-001	Rubber Tube		3
34	VKL4370-00C	Slide Base Ass'y		1
35	VKP4105-00A	Pinch Roller Bracket Ass'y		1
36	VKL4371-001	Push Arm		1
37	VKW4139-001	Pinch Roller Spring		1
38	VKS2102-001	Head Mount Base		1
39	ZMM074401-0D	REC/PB Head Ass'y		1
40	VKW3001-020	Compression Spring	for REC/PB and E Heads	2
41	ZMM090414-0A	Erase Head Ass'y		1
42	VKW3002-005	Tension Spring	for Slide Base	1
43	TEP357469-02	Stopper		1
44	VKL3155-00A	Reel Disk Bracket Ass'y		1
45	VKR4113-00A	Take-up Reel Ass'y		1
46	VKR4118-00A	Supply Reel Ass'y		1
47	VKS4130-001	Back Tension Base		1
49	VKW3001-026	Compression Spring	for Back Tension	1
50	VKS4131-001	Reel Stopper		2
51	VKS4151-00A	Idler Ass'y Unit		1
52	VKL4484-001	Lock Lever		1
53	VKW3002-027	Spring		1
54	TJN265559-04	Silencer	for Spring	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
56	—	—		
57	VKW4134-001	Idler Spring		1
58	MDN-7V	Reel Motor		1
59	VKR4121-001	Motor Pulley		1
60	VKF3107-00A	Flywheel Ass'y		1
61	VKF3103-00B	Capstan Metal		1
62	T30301-137	Spring		1
63	VKB3001-007	Capstan Belt		1
64	VKL4372-00B	Flywheel Holder Ass'y		1
65	VKL4368-002	Play Solenoid Lever		1
66	VKW4137-001	Connecting Wire		1
67	TEP357456-01	Thrust Screw		1
68	VKL4398-002	Play Solenoid Bracket		1
71	VGP0301-002	D.C. Solenoid Ass'y	for Play	1
72	VKL3161-002	Motor Bracket		1
73	MH15C2HDN	D. C. Motor	for Capstan	1
74	VKS4139-002	Motor Pulley		1
75	TER357465-03	Cushion Rubber		3
76	VKZ4109-001	Motor Screw		3
77	TFB345469-01	Rubber Stopper		1
78	VGP0201-003	D.C. Solenoid Ass'y	for Brake	1
79	VKL4363-002	Lock Solenoid Lever		1
80	VKH4194-001	Shaft		1
82	T43909-008	Metal		1
83	VKL4485-00A	Eject Lever Ass'y		1
84	VKW4156-001	Shaft Arm Spring		1
85	VKC5122-001T	Counter Ass'y		1
86	VKB3000-012	Counter Belt		1
87	VMW4530-001	P.W. Board		1
88	DN6835	Hole I.C.		1
89	QMV5005-003	Connector		1
90	VKL4487-00B	Mecha. Bracket (L) Ass'y		1
91	VKL4486-00A	" (R) Ass'y		1
92	VKL4403-00B	Shift Arm Ass'y		1
93	T43909-004	Metal	for Shift Arm	1
94	—	—		
105	QD3093-825	Washer	for Crossbar	2
111	Q03093-522	Washer	for Flywheel	1
113	Q03093-621	Washer	for Flywheel	1
114	" -827	"	"	1
115	REE2000	E Ring	for Push Arm	1
116	REE2500	"	Play Arm x 1, Lock Lever x 1, Play Solenoid Lever x 1, Shaft x 1, Cassette Holder – Cassette Cover Ass'y x 2	6
117	LPSP2605Z	Screw	Flywheel Cover	1
118	GPSA2612Z	"	Slide Base	4
119	LPSP2605Z	"	Mecha. Bracket (R) x 2, Metal x 1, Mecha. Bracket (L) x 2, Metal x 1	6
120	LPSP2606Z	"	Capstan Metal x 3, Flywheel Holder x 1, Motor Bracket x 1	5

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
121	SBSB3006Z	Tapping Screw	Mecha. Ass'y	4
122	SBSB2608Z	"	Leaf Switch	1
123	SBSB2610Z	"	Flywheel Holder x 2, Motor Bracket x 3	5
124	SDSP2606Z	Screw	for P.W. Board	4
125	SPSX2010N	"	REC/PB and E. Heads	1
126	SPSP2006N	"	Head Mount Base	1
127	SPSP2603Z	"	Reel Motor	3
128	SPSP2605Z	"	Switch Holder	5
129	SPSP3003ZS	"	Solenoid x 2, Solenoid x 2	4
130	—	—		
131	SSSB2608Z	Screw	Counter	2
132	YRS2603B	"	Motor Pulley	1
133	SPSP2606Z	"	Reel Unit Ass'y	4
134	LPSP2604Z	"	Play Solenoid Bracket x 3, Rubber Stopper x 1	4

Main Amp. P.W. Board Parts List

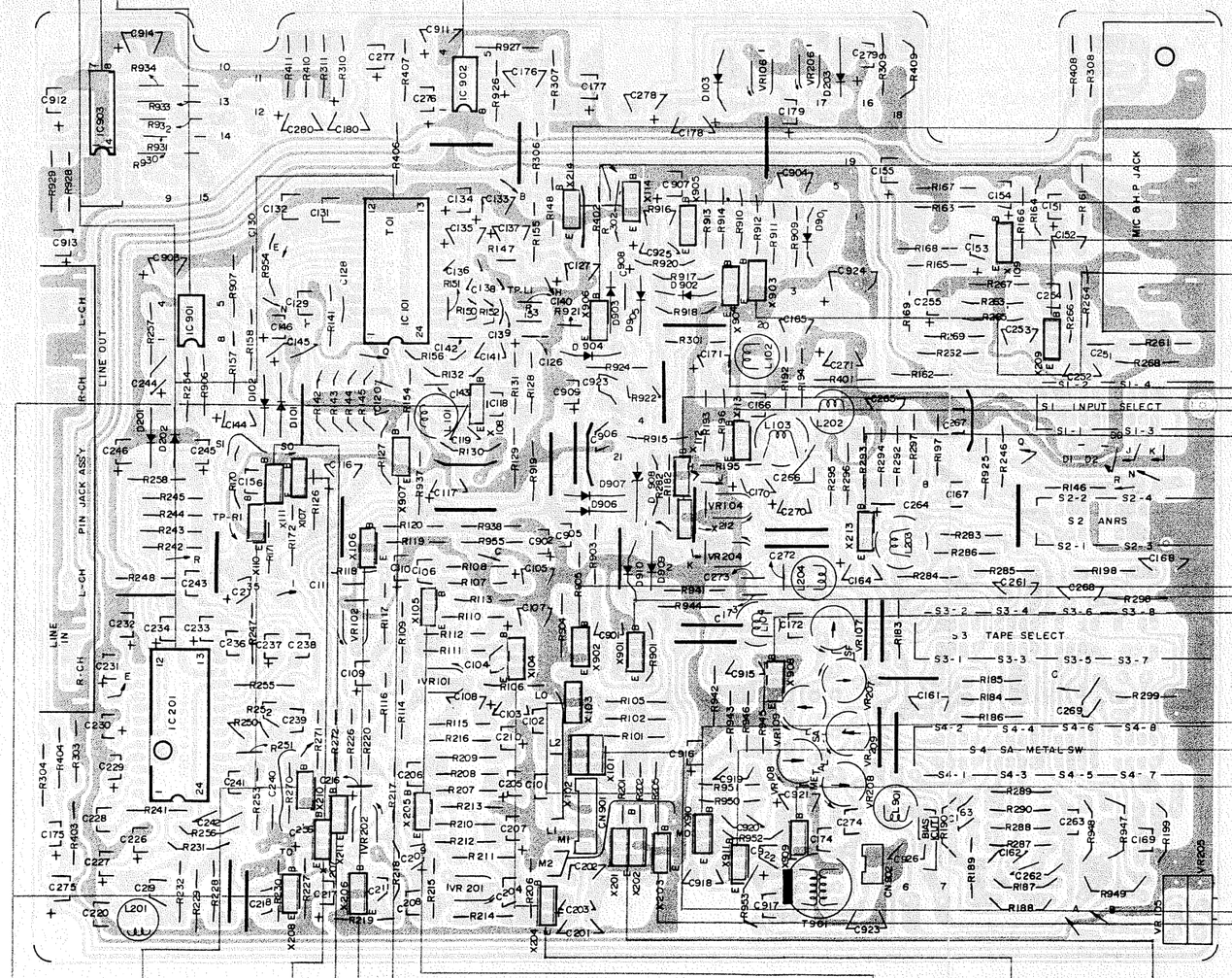
⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMW1522-002A	P.W. Board	No supply as parts ass'y	1
R101, 201, 118, 218, 143, 243	QRD141K-822	C. Resistor	8.2 kΩ ¼ W	6
R102, 202, 169, 269, 311, 411, 929	" -392	"	3.9 kΩ "	7
R105, 205, 114, 214, 132, 232, 147, 247, 170, 270, 182, 282, 924, 941	" -472	"	4.7 kΩ "	14
R106, 206, 308, 408, 930, 931, 932, 933, 934	" -151	"	150 Ω "	9
R107, 207, 183, 283,	QRZ0019-823	" (Low Noise)	82 kΩ "	4
R108, 208, 192, 292, 310, 410	QRD141K-273	C. Resistor	27 kΩ "	6
R109, 209, 117, 217, 120, 220, 171, 271, 129, 229, 154, 254, 302, 402, 902, 919, 923, 946, 955	" -103	"	10 kΩ "	19
R110, 210	" -101	"	100 Ω "	2
R111, 211	QRZ0019-823	" (Low Noise)	82 kΩ "	2
R112, 212	QRD141K-102	C. Resistor	1 kΩ "	2
R113, 213	" -681	"	680 Ω "	2
R115, 215	" -184	"	180 kΩ "	2
R116, 216, 142, 242, 921	" -152	"	1.5 kΩ "	5
R119, 219, 127, 227, 156, 256, 162, 262, 168, 268, 188, 288, 194, 294, 303, 403, 912, 917, 918	" -104	"	100 kΩ "	19
R126, 226, 172, 272	" -394	"	390 kΩ "	4
R128, 228, 190, 290	" -124	"	120 kΩ "	4
R130, 230, 197, 297, 199, 299	" -121	"	120 Ω "	6
R131, 231	" -563	"	56 kΩ "	2
R141, 241, 146, 246, 164, 264, 306, 406, 905, 911, 913, 916, 950, 951	" -473	"	47 kΩ "	14
R144, 244, 150, 250, 152, 252	" -272	"	2.7 kΩ "	6
R145, 245, 301, 401	" -222	"	2.2 kΩ "	4
R148, 248, 195, 295	" -152	"	1.5 kΩ "	4
R151, 251	" -183	"	18 kΩ "	2
R153, 253	" -680	"	68 Ω "	2
R155, 255	QRD146K-181	Unflamable Resistor	180 Ω "	2
R157, 257	QRD141K-474	C. Resistor	470 kΩ "	2
R158, 258, 165, 265, 196, 296, 904, 905, 918, 928, 937, 942, 945	" -223	"	22 kΩ "	13
R161, 261, 166, 266, 198, 298	" -820	"	82 Ω "	6
R163, 263, 186, 286	" -334	"	330 kΩ "	4
R167, 267, 304, 404, 309, 409, 901, 925	" -332	"	3.3 kΩ "	8
R184, 284	QRD141K-393	C. Resistor	39KΩ ¼ W	2
R185, 285	" -564	"	560 kΩ "	2
R189, 289	QRD141K-563	"	56kΩ	2
R 307, 407, 910	" -154	"	150 kΩ "	3
R187, 287, 906, 907, 914, 926, 927	" -683	"	68 kΩ "	7
R193, 293	" -125	"	1.2 MΩ "	2
R903	QRD146K-331	Unflamable Resistor	330 Ω "	1
R909, 954	QRD141K-471	C. Resistor	470 Ω "	2

Printed Wiring Board Parts

Main Amp. P.W. Board Parts

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	ANRS
IC101 I 201	C.Tester	9.2	8.6	8.0	7.6	5.5	5.1	1.0	4.8	8.8	8.8	0.2	0	0	0.7	17.7	8.9	10.1	8.9	10.1	11.2	11.2	11.2	11.2	15.2	OFF
		9.0	8.5	8.1	7.9	5.8	2.0	1.0	0.5	9.0	9.0	0.2	0	0	0.8	18.1	9.0	10.3	9.0	10.3	11.5	11.5	11.5	11.6	15.7	ON
	E.Voltmeter	9.3	8.63	7.7	7.6	5.2	5.1	1.1	4.6	8.4	8.3	0.4	0	0.1	0.7	17.1	8.4	9.7	8.4	9.7	11.0	11.0	11.0	11.0	14.9	OFF
		9.2	8.5	8.0	8.0	5.5	2.0	1.1	0.6	8.8	8.8	0.4	0	0.1	0.7	17.8	8.8	10.1	8.8	10.1	11.4	11.4	11.4	11.4	15.4	ON
IC903	C.Tester	0	0	0	2.7	2.7	0	0	12.0	0	0	0 0	0	0	0											
	E.Voltmeter	0	0	0	2.7	2.7	0	0	12.3	0.3	0.3	0.4	0.5	0.5	0											
IC901	CTester	10.4	10.4	10.4	0	10.4	10.4	10.4	20.9																	
	E.Voltmeter	10.2	10.2	10.2	0	10.2	10.2	10.2	20.5																	
IC902	C.Tester	10.4	10.4	10.4	0	10.4	10.4	10.4	20.9																	
	E.Voltmeter	10.2	10.3	10.2	0	10.2	10.3	10.3	20.5																	



	C. Tester			E. Voltmeter			
	E	C	B	E	C	B	
X114	0	0	0	0	0.01	0	PLAY
214	0	0	0.7	0.01	0.01	0.72	PLAY, PAUSE
X906	16.5	0	20.0	16.07	—	19.87	PLAY
	16.0	16.0	15.2	15.52	15.48	14.8	PLAY, PAUSE
X905	19.1	0	18.3	18.84	0	18.55	PLAY
	19.0	18.8	18.2	18.63	18.5	17.92	REC
X109 209	1.9	7.6	2.1	1.69	7.62	2.25	
X903	0	0	0.7	0	0.02	0.62	PLAY
	0	17.1	0	0	18.39	0.26	REC
X904	19.1	19.1	18.4	18.84	18.75	18.12	PLAY
	19.0	0	18.2	18.63	0	18.55	REC
X112	0	0	0.7	0.01	0	0.69	PLAY
212	0	0	0	0	0	—	REC
X113 213	0.9	8.0	1.2	0.79	7.86	1.37	
X902	0	0	0.7	0.01	0.02	0.68	PLAY
	0	21.9	0	0	20.6	0	REC
X901	16.5	16.5	15.9	16.24	16.11	15.48	PLAY
	21.0	0	21.0	20.6	—	20.6	REC
X908	0	12.7	0	0.01	11.38	0.01	REC
	0	0	0.8	0	0.01	0.76	OTHER
X910	0.3	9.1	0	0.32	8.95	-0.07	REC
	20.4	21.0	20.0	20.2	20.6	20.5	OTHER
X911	0.3	9.1	0	0.32	8.95	-0.11	REC
	20.4	21.0	20.0	20.2	20.6	20.5	OTHER
X909	0	0	0.9	0.01	0.08	0.78	REC
	0	20.4	0	0	20.2	0.01	OTHER

at SF/NOR (Tape select switch)

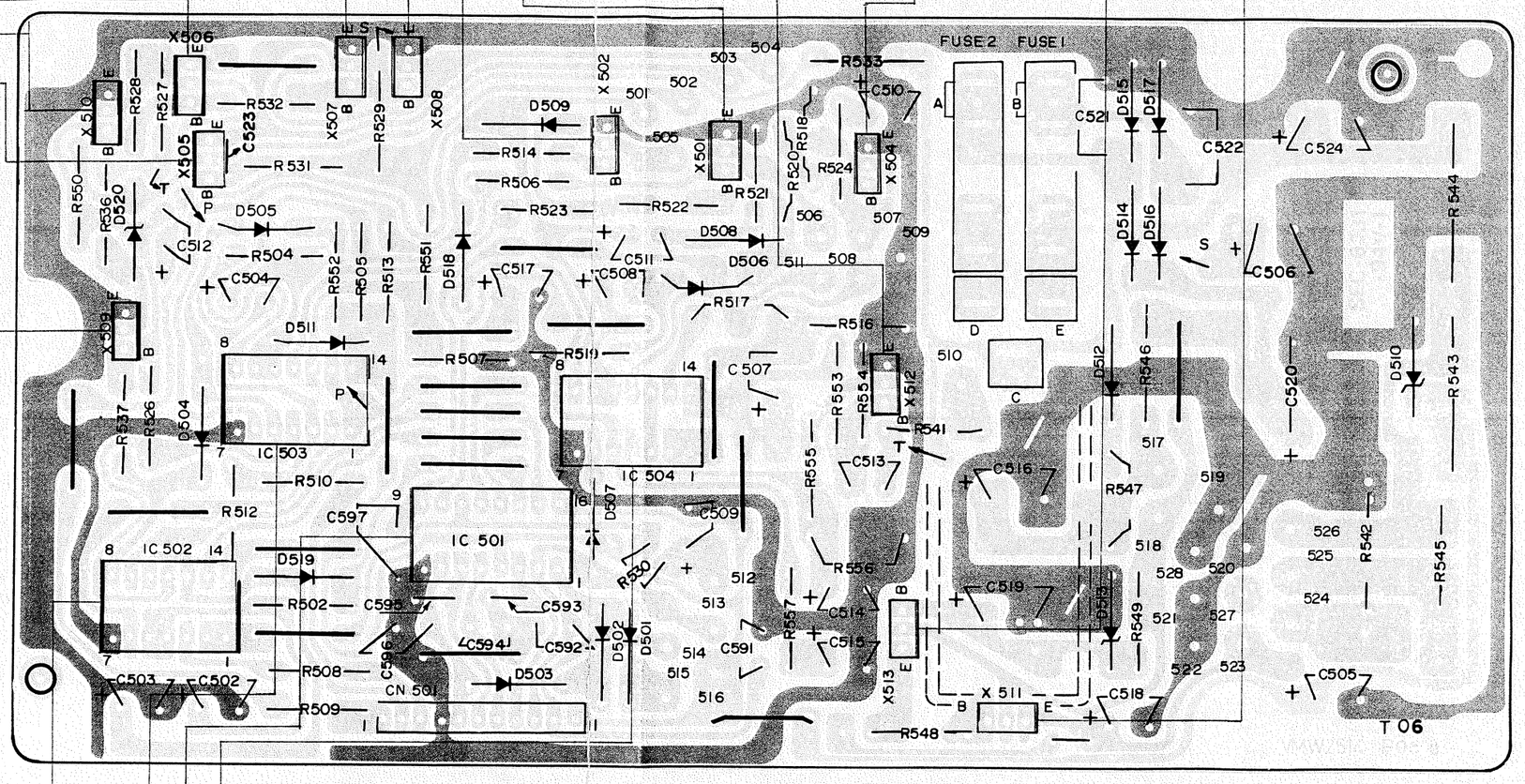
	X108,208			X110,210			X107,207			X111,211			X106,206			X907			X105,205			X104,204			X102,202			X103,203			X101,201		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
C.Tester	0	7.5	0.8	0	0	0.7	3.4	3.4	4.0	3.56	—	0	0	0	0	0	1.0	0	1.9	10.3	2.4	0	2.5	0.5	0	0	0.7	0	0	0	0	0	0.7
				0	0	0	3.4	—	0	3.5	3.5	4.0	0	0	0.7	0	0	0.7							0	0	0	0	0	0.7	0	0	0
E.Voltmeter	0.25	7.47	0.82	0.01	0.01	0.72	3.66	3.66	4.21	3.66	—	0	0.01	0	0	0.01	1.02	0.01	1.82	10.03	2.4	0	2.4	0.54	0	0	0.8	0.1	0	0	0	0.1	0.8
		±2V		0.01	0	0	3.6	—	0	3.6	3.61	4.15	0.01	0	0.67	0	0.01	0.71							0	0	—	0	0	0.8	0	0	—
				PLAY			PLAY			PLAY			SF/NOR			PLAY									PLAY			PLAY			PLAY		
				REC			REC			REC			OTHER			REC									REC			REC			REC		

Voltage values are measured by the following meter without input signal at playback mode.
C. Tester = Circuit Tester (20 kΩ impedance)
E. Voltmeter = Electronic Voltmeter

Control P.W. Board Parts

E	C	B	
0	REW 9.1 Others 0.07	PLAY,FF 0.75 Others 0.1	X508
0	PLAY 5.4 FF 8.7 Others 0.01	REW 0.75 Others 0.07	X507
REW 9.2 Others 0.07	14.5~15.5	REW 9.1 Others 0.07	X506
0	REW 8.5 Others 0.07	REW 0.07 Others 0.7	X510
PLAY 5.4 FF 8.7 Others 0.01	14.5~15.5	PLAY 6 FF 9.3 Others 0.1	X505
0	FF 11.1 Others 0.08	FF 0.07 Others 0.7	X509

	STOP 31 Others 0.1	STOP 0.15 Others 0.75	0	PLAY Others 31.5	PLAY 0.75 Others 0.15	0	AUTO STOP more than 1.5 Other less than 1	0.3	0	PLAY, REC 22.4 Others 0.05	PLAY, REC 0.5 Others 0.7	23.2	31	24	22.5	31	23.2
E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
X502			X501			X512			X504			X513			X511		



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC504	0.9	0.9	3.4	AUTO STOP 1.5 Others 0.5	AUTO STOP 1.4 Others 0.6	AUTO STOP 1 Others 5	0	REC 0.1 Others 5	REC 5 Others 0.1		5	3.4	1.0	5		
IC501	At PLAY operation 0 Others 5	At STOP operation 0 Others 5	At FF operation 0 Others 5	5	At REW operation 0 Others 5	At PAUSE operation 0 Others 5	At REC operation 0 Others 5	0	Playback cassette 0 Recording cassette 5	REC 5 Others 0.1	PAUSE 5 Others 0.1	PLAY 5 Others 0.1	REW 5 Others 0.1	FF and REW 3.9 Others 0.1	PLAY 5 Others 0.1	5
IC503	PLAY 5 Others 0.1	FF and REW 0 Others 4	PLAY 0.2 Others 5	REW 0 Others 3.8	PLAY and FF 0.4 Others 1.7	PLAY, FF, REW 3.5 Others 0.15	0	PLAY Λ 3 Others 0.1	PLAY 1.5 Others 5		PLAY 0.1 Others 5	PLAY 2.1 Others 0.2	PLAY 5 Others 0.1	5		
IC502	PAUSE 5 Others 0.15		PAUSE 0.15 Others 4.2	FF, REW 5 Others 1		FF, REW 0.07 Others 3.5	0	FF 0.07 Others 3.8	FF 5 Others 0.15	FF, REW 1.7 Others 0.25	REW 0.07 Others 3.8	REW 1.6 Others 0.25	REW 5 Others 0.15	5		

Λ — positive flash voltage

V — negative flash voltage

Voltage values are measured by the following meter without input signal at playback mode.
C. Tester = Circuit Tester (20 kΩ /V impedance)
E. Voltmeter = Electronic Voltmeter

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
R920, 947	QRD146K-151	Unflamable Resistor	150 Ω ¼ W	2
R922	QRD143K-153	C. Resistor	15 kΩ "	1
R943	QRD141K-151	"	150 Ω "	1
R944	" -682	"	6.8 kΩ "	1
R948	QRD146K-471	Unflamable Resistor	470 Ω "	1
R949	" -391	"	390 Ω "	1
R952, 953	" -100	"	10 Ω "	2
	QWY123-022	Bas. Wire	for Jump	28
C101, 201	QCS11HJ-221	F. Ceramic Capacitor	220 pF 50 V	2
C102, 202	" -391	"	390 pF "	2
C103, 203, 109, 209, 151, 251	QEB41EM-475M	E. Capacitor (Low Leak)	4.7 μF 25 V	6
C104, 204	QCS11HJ-101	F. Ceramic Capacitor	100 pF 50 V	2
C105, 205, 126, 226, 129, 229, 130, 230, 131, 231, 179, 279, 903, 911, 914	QEW41CA-336N	E. Capacitor	33 μF 16 V	15
C106, 206	QCS11HJ-680	F. Ceramic Capacitor	68 pF 50 V	2
C107, 207, 132, 232	QEW40JA-227N	E. Capacitor	220 μF 6.3 V	4
C108, 208	QFM41HJ-183	Mylar Capacitor	0.018 μF 50 V	2
C110, 210, 155, 255, 171, 271	QEW41EA-336N	E. Capacitor	33 μF 25 V	6
C111, 211	QFM41HJ-822	Mylar Capacitor	0.0082 μF 50 V	2
C116, 216, 117, 217	QEB41EM-105N	E. Capacitor (Low Leak)	1 μF 25 V	4
C118, 218, 136, 236, 138, 238	QCS11HK-151	F. Ceramic Capacitor	150 pF 50 V	6
C119, 219, 172, 272	QCS11HJ-201	"	200 pF "	4
C120, 220, 143, 243, 163, 263 169, 269	QFM41HJ-102	Mylar Capacitor	0.001 μF "	8
C127, 227, 901, 907, 909	QEW41EA-227N	E. Capacitor	220 μF 25 V	5
C128, 228	QEN41EA-335N	Non-polarized E. Capacitor	3.3 μF "	2
C133, 233, 134, 234, 154, 254, 908	QEW41AA-107N	E. Capacitor		7
C135, 235	QEW41EA-475N	"	4.7 μF "	2
C144, 244, 164, 264, 170, 270, 176, 276, 180, 280, 921	QEW41HA-105N	"	1 μF 50 V	11
C139, 239	QFM41HJ-272	Mylar Capacitor	0.0027 μF "	2
C140, 240	" -273	"	0.027 μF "	2
C141, 241	" -682	"	0.0068 μF "	2
C142, 242	QCS11HK-471	F. Ceramic Capacitor	470 pF "	2
C145, 245	QEW41AA-476N	E. Capacitor	47 μF 10 V	2
C146, 246	QEB41EM-335N	" (Low Leak)	3.3 μF 25 V	2
C152, 252	QCS11HK-471	Ceramic Capacitor	470 pF 50 V	2
C153, 253	QEB41HM-105M	E. Capacitor (Low Leak)	1 μF "	2
C156, 256	QEB41EM-105N	"	1 μF 25 V	2
C162, 262	QCS11HJ-681	Ceramic Capacitor	680 pF 50 V	2
C161, 261	QFM41HJ-152	Mylar Capacitor	0.0015 μF "	2
C165, 265	" -104	"	0.1 μF "	2
C166, 266	QCS11HJ-201	Ceramic Capacitor	200 pF "	2
C167, 267	QFM41HJ-123	Mylar Capacitor	0.012 μF "	2
C168, 268	QFM41HJ-392	Mylar Capacitor	0.0039 μF 50 V	2
C 918, 919	" -472	"	0.0047 μF "	2
C173, 273	QCS11HJ-391	Ceramic Capacitor	390 pF "	2
C174, 274	QFS32BK-221	Polystyrene Capacitor	220 pF	2
C175, 275	QEW41HA-105N	E. Capacitor	1 μF 50 V	2

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
C177, 277	QEW41CA-476N	E. Capacitor	47 μF 16 V	2
C178, 278, 904, 912	QEW41CA-106N	"	10 μF "	4
C902, 913	QEW41EA-475N	"	4.7 μF 25 V	2
C905, 906	QFM41HK-822	Mylar Capacitor	0.0082 μF 50 V	2
C915, 920	QFM41HK-103	"	0.01 μF "	2
C916	QEW41CA-107N	E. Capacitor	100 μF 16 V	1
C917	QFM42AK-223	Mylar Capacitor	0.022 μF 100 V	1
C922	QEW41EA-106N	E. Capacitor	10 μF 25 V	1
C923	QFS32BK-682	Polystyrene Capacitor	0.0068 μF	1
C924	QEW41EA-477N	E. Capacitor	470 μF 25 V	1
C925	QEW41CA-106N	"	10 μF 16 V	1
C926	QCF11HP-472	Ceramic Capacitor	0.0047 μF 50 V	1
VR101, 201	QVP8A0B-053	V. Resistor	PB. EQ.	2
VR102, 202, 104, 204	" -024	"	PB. GAIN, REC. GAIN	4
VR106, 206	" -052	"	METER	2
VR107, 207, 108, 208, 109, 209	QVP4A0B-224	"	BIAS NORMAL, BIAS METAL, BIAS CHROME	6
L102, 201, 104, 204, 102, 202	VQP0001-183S	Inductor	18 mH	6
L103, 203	TAC000320-07	"	5.6 mH	2
L901	VQP0001-102S	"	1 mH	1
T901	VQH1009-003	Osc. Coil		1
X101, 201, 102, 202	2SC1980(T,U)	Si. Transistor		4
X103, 203	2SC1684(R,S)	"		2
X104, 204, 105, 205, 109, 209, 113, 213	2SC1327(T,U)	"		8
X106,206,107,207,110,210,111, 211,114,214,902,903,907,908	2SC1684(R,S)			14
X108, 208	2SC1327(U)	"		2
X112, 212	2SD468(B,C)	"		2
X901	2SA921(T,U)	"		1
X904, 905, 906	2SA564(R,S)	"		3
X909, 910, 911	2SC1685(R,S)	"		3
IC101, 201	TAT000351-01	Super ANRS IC		2
IC901	UPC4558C	IC		1
IC902	UPC4557C	"		1
IC903	LB1416	"		1
D101,201,102,202,103,203,901	OA90	Ge. Diode		7
D902, 904–907, 909, 910	MA150	Si. Diode		7
D903, 908	RD4.3E(C)	Zener Diode		2
S1	QSL4309-022	Lever Switch	Input Select	1
S2	" -021	"	ANRS SW.	1
S3	QSL8309-001	"	Tape Select	1
S4	QSL8209-012	"	Metal	1
	VMJ5002-003	MIC & HP Jack Ass'y		1
	VMJ6002-003	PIN Jack Ass'y		1
CN901	QMV5005-006	Plug Ass'y	R/P Head	1
CN902	" -003	"	E. Head	1
VR105, 205	QVD8A2A-014V	V. Resistor	Output Volume	1
	VKL3143-001	Board in Tab		6
	E43727-002	Wrapping Tab		22

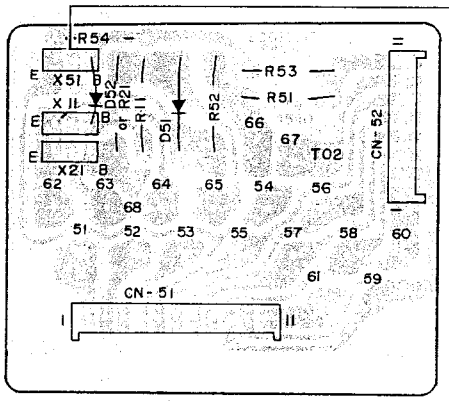
⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Control P.W. Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMW2514-006	P. W. Board	No supply as parts ass'y	1
R502	QRD141K-102	C. Resistor	1 kΩ 1/4 W	1
R504,	" -562	"	5.6 kΩ "	1
R505, 508, 510, 530	" -271	"	270 Ω "	4
R506, 517	" -101	"	100 Ω "	2
R507, 552	" -122	"	1.2 kΩ "	2
R509, 514	" -331	"	330 Ω "	2
R512, 554	" -561	"	560 Ω "	3
R513	" -391	"	390 Ω "	1
R516	" -681	"	680 Ω "	1
R518	" -473	"	47 kΩ "	1
R519, 520, 521, 522, 553	" -103	"	10 kΩ "	5
R523, 529	" -222	"	2.2 kΩ "	2
R524, 555, 557	" -560	"	56 Ω "	3
R537	" -472	"	4.7 kΩ "	1
R527	" -152	"	1.5 kΩ "	1
R528, 541	" -220	"	22 Ω "	2
R531	" -681	"	680 Ω "	1
R533	QRG019J-220	O.M.F. Resistor	22 Ω	1
R536	QRD121K-102	"	1 kΩ "	1
R542	QRG019J-151	O.M.F. Resistor	150 Ω "	1
R543	QRG029J-330	"	33 Ω "	1
R544	" -120	"	12 Ω "	1
R545	QRD126K-560	C. Resistor	56 Ω 1/2 W	1
R546	QRG029J-331	O.M.F. Resistor	330 Ω	1
R547	QRD146K-3R3	C. Resistor	3.3 Ω 1/4 W	1
R548	QRD146K-330	Unflamable Resistor	33 Ω 1/4 W ⚠	1
R549	QRD141K-822	C. Resistor	8.2 kΩ "	1
R550	" -333	"	33 kΩ "	1
R551, 526	" -682	"	6.8 kΩ "	2
R556	" -563	"	56 kΩ "	1
R532	" -272	"	2.7 kΩ	1
R533	QRG019J-220	O.M.F. Resistor	22Ω	1
	QWY123-022	Bas. Wire		19
C502	QEW40JA-227N	E. Capacitor	220 μF 6.3 V	1
C503, 504	QEW41AA-107N	"	100 μF 10 V	2
C505	" -108N	"	1000 μF "	1
C507	*QEW40JA-228N	"	2200 μF 6.3 V	1
C508, 509, 511	QEW41EA-475N	"	4.7 μF 25 V	3
C510	" -106N	"	10 μF "	1
C512	QEB41EM-106N	Low Leak E. Capacitor	10 μF "	1
C513, 514, 515	QEW40JA-477N	E. Capacitor	470 μF 6.3 V	3
C516	QEW41VA-477N	"	470 μF 35 V	1
C517	QEW41CA-106N	"	10 μF 16 V	1
C518	QEW41EA-106N	"	10 μF 25 V	1
C519	" -107N	"	100 μF "	1
C520	*QET41HR-228N	"	2200 μF 50 V	1
C521, 522	QCF12HP-103	F. Ceramic Capacitor	0.01 μF "	2
C524	QEW41EA-108N	E. Capacitor	1000 μF 25 V	1
C525	QEB41EM-335N	Low Leak E. Capacitor	3.3 μF "	1
C591	QCF11HP-102	F. Ceramic Capacitor	0.001 μF 50 V	1
C592–597, 523	" -103	"	0.01 μF "	7
X501, 502	2SC1162(B, C)	Si. Transistor		2
X504, 505, 506	2SC458(C, D)	"		3
X507, 508	2SC1213(C, D)	"		2
X509, 510	2SC458(C, D)	"		2
X511	2SC1162(B, C)			1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
X512, 513	2SC458(C,D)	Si. Transistor		2
IC501	M54410P	I.C.		1
IC502, 503, 504	HD7400	"	or SN7400N	3
D501–509, 511, 518, 519	1N34A	Ge. Diode		12
D510	RD5.1F(B)	Zener Diode		1
D512, 514, 515, 516, 517	10E1-B	Si. Diode		5
D513	RD22EB3	Zener Diode		1
CN501	QMV5004-011	Plug Ass'y	Touch Switch	1
	E43727-002	Wrapping Tab		28
	E40130-001	Tab		3
	TAR272448-01	Heat Sink	for X511	1
	LPSP3008ZS	Screw	for X511	1
	SBSB3006V	Screw	for P.W. Board	4
	TAZ000331-02	Fuse Holder	KD-A5A/B/E ⚠	4
	QMF51A2-1R6BS	Fuse	KD-A5B ⚠	2
	" -1R6	"	KD-A5A/E ⚠	2

Remote control P.W. Board Parts



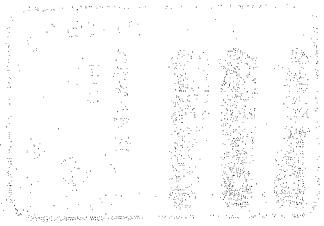
X51	E	C	B	Remot Con. Rec Muting
C . Tester	0	20,5	0	ON
	0	0	0	OFF
E . Voltmeter	0	20,6	0	ON
	0	0	0,7	OFF

REMOTE CONTROL P.W. BOARD PARTS LIST

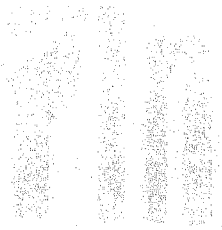
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	*VMW4540-002	P. W. Board	for Remote Control	1
R51	QRD142K-223	C. Resistor	22 kΩ 1/4 W	1
R52	" -222	"	2.2 kΩ "	1
R53, 54	" -562	"	5.6 kΩ "	2
X51	2SC1684(R,S)	Si. Transistor		1
D51	RD4.3E(C)	Zener Diode		1
D52	MA150	Si. Diode		1
CN52	QMV5005-008	Plug Ass'y		1
CN51	" -011	"		1
	E43727-002	Wrapping Tab		14
	VKL4567-001	Bracket	for P.W.B.	1
	LPSP3006ZS	Screw	"	2
	SBSB3006V	Tapping Screw	for Bracket	2

Other P.W. Board Parts

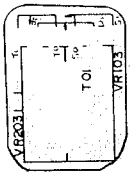
Timer Switch



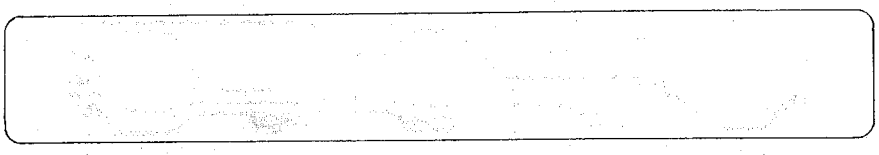
Metal Switch



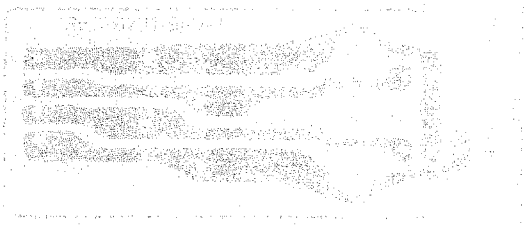
Volume



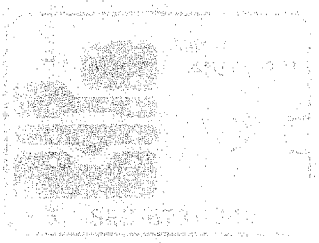
Control Switch



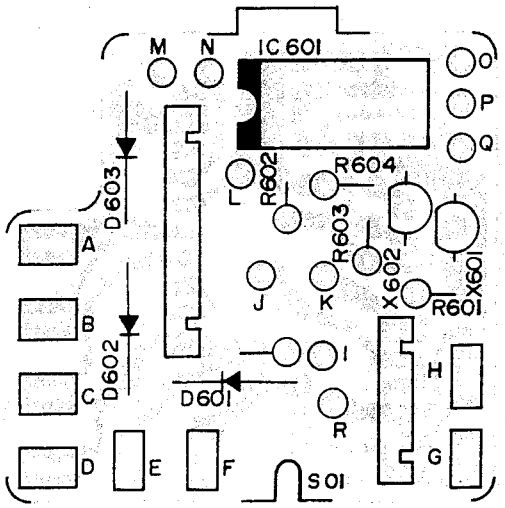
Switch



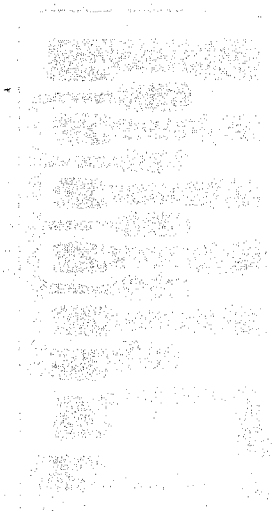
Hall Element



Connector



LED Indicator

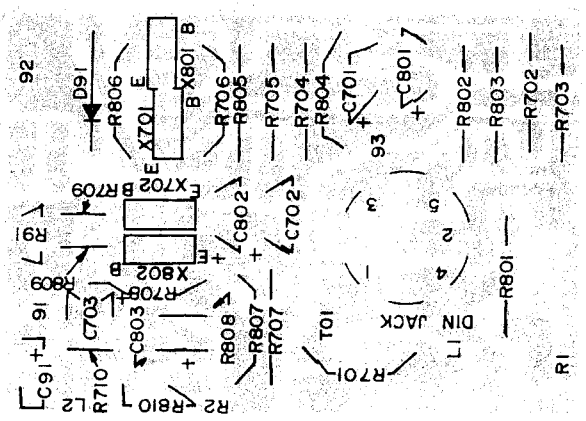


Other P.W. Board Parts List

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
(Timer Switch)	VMW4531-001	P.W. Board	for Timer Switch	1
(Metal Switch)	VMW4533-001	P.W. Board		1
S5	QSS2301-006	Slide Switch		1
R935	QRD146K-390	Unflamable Resistor	39 Ω 1/4 W	1
R936	" -101	"	100 Ω "	1
(Volume)	VMW1522-002B	P.W. Board	for Volume	1
VR103, 203	QVE5A3A-054F	Variable Resistor	for Rec. Level	1
(LED Indicator)	VKS4146-001	LED Holder		1
	VKM4525-002	P.W. Board		1
D301–306	TLR102	LED	for Indicator (Red) (Level Indicator x 5, ANRS Indicator x 1)	6
(Control Switch)	VMW3519-003	P. W. Board	for Control SW.	1
S501–506	QSP0022-002	Touch Switch		
	TLR102	LED	(Red) Rec. Indicator	1
	TLG102	"	(Green) Play and Pause Indicators	2
	VKZ4101-001	Spacer	for LED	3
(Connector)	VMW4523-001	P.W. Board		1
	10E1-B	Si. Diode		2
	QMV5005-006	Connector		1
	" -009	"		1
	VKL3143-001	Tab		6
	QRD146K-102	Unflamable Resistor	1 kΩ 1/4 W	1
(Switch)	VMW4522-001	P.W. Board (L)		1
	QSP0029-001	Slide Switch		2
	QVP5004-004	Connector		1
(Hall Element)	VMW4530-001	P.W. Board		1
	DN6835	Hall I.C.		1
	QMV5005-003	Connector		

DIN P.W Board Parts (KD-A5 B/E)

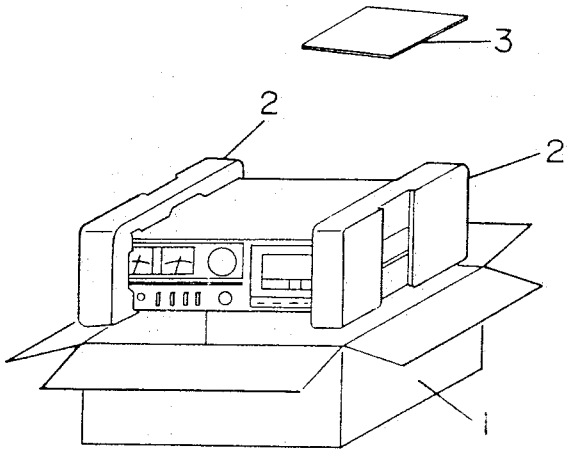


No. 4182

DIN P.W. Board Parts List (KD-A5B/E)

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMW4544-001	P.W. Board		1
R701, 801	QRD141K-102	C. Resistor	1 kΩ ¼ W	2
R702, 802	" -332	"	3.3 kΩ "	2
R703, 803, 704, 804	" -224	"	220 kΩ "	4
R705, 805	" -222	"	2.2 kΩ "	2
R706, 806, 707, 807	" -103	"	10 kΩ "	4
R708, 808	" -394	"	390 kΩ "	2
R709, 809	QRD143K-334	"	330 kΩ "	2
R710, 810	" -103	"	10 kΩ "	2
R91	" -332	"	3.3 kΩ "	1
C701, 801, 702, 802, 703, 803	QEW41HA-105N	E. Capacitor	1 μF 50 V	6
C91	QEW41EA-336N	"	33 μF 25 V	1
D91	RD4.3E(C)	Zener Diode		1
X701, 801, 702, 802	2SC1684(R, S)	Si. Transistor		4
		DIN Jack Ass'y		1
	SDSP2605R	Screw	for DIN Jack	2

Packing



Packing Material List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1, 2	VPA3073-00C	Packing Case Ass'y	KD-A5A/B/E/J/U	1 set
"	" -00D	"	KD-A5C	1 set
1	VPA3073-005	Case	KD-A5A/B/E/J/U	1
	" -006	"	KD-A5C	1
2	VPH1169-001	Cushion (L)		1
	VHP1170-001	" (R)		1
	TKS000501-01	Sheet	for Deck	1
	VPK4121-001	Spacer	for Cassette Door	1
	QPGA060-06005	Envelope	for Deck	1
	AP4056A-036	"	for Provided Cord	1
	QPGB024-03404	"	for Instruction Book	1

Accessories

Parts No.	Parts Name	Remarks	Q'ty
VMP0002-00A	PIN Cord		2
VYA4001-00A	Head Cleaning Stick		1
VNN0035-301	Instruction Book		1
TLJ000476-02	ANRS Seal		1
TLJ00477-02	Super ANRS Seal		1
TLJ000443-01	Seal	Made in Japan, KD-A5B	1
BT20029	Warranty Card	KD-A5A	1
BT20025C	"	KD-A5C	1
BT2032	"	KD-A5J/U for PX	1
BT2023	Service Procedure	KD-A5J/U for PX	1
QZL1002-003BS	Warning Label	KD-A5B	1
TLT000505-01	UL/CSA Caution Label	KD-A5C/J	2
BT20024B	Special Reply Card	KD-A5J/U for PX	1
T46328-003	Caution Label	KD-A5A/B	1
T44362-001	CSA Mark	KD-A5C	1
T46328-004	Caution Label	KD-A5E	1
V04062-001	Siemens Plug	KD-A5U	1
T46328-001	Caution Label	KD-A5U	1
VND4013-001	Warning Label	KD-A5A/E	1
VNC5004-001	Mark Sticker	KD-A5E	1
E7795-1	EP. Mark	KD-A5U for PX	1

JVC
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